

3.1 BIOLOGICAL RESOURCES

This section describes the existing biological resources within the project area, identifies potential impacts associated with the Proposed Project and alternatives, and presents mitigation measures that would serve to offset such impacts. The analysis consisted of a review of documents, databases and reports in conjunction with biological field surveys to determine the potential impacts, if any, to the habitat for special-status plant and wildlife species in the project area. Agency coordination has consisted of site meetings, telephone conversations, and written correspondence between Greystone biologists and USFWS, BLM, and California Department of Fish and Game (CDFG) management and staff. This coordination is ongoing. The purpose of these consultation meetings and associated correspondence was to help identify biological issues; determine study area boundaries; study potential occurrences and distribution of plants and wildlife and their habitats; and develop survey and mapping protocols to be used to prepare ecological studies for the project corridor.

A list of potentially occurring special-status species, along with specific occurrence records, was developed from an original list of target species based on (1) records of the California Natural Diversity Database (CNDDDB) for special-status species that are known to occur in the project survey area; (2) records from the California Native Plant Society (CNPS) for special-status plants; (3) records from the USFWS, BLM, and CDFG for special-status species of concern to each agency, (4) consultation with local biological experts, and (5) review of other environmental documents prepared in the Coachella Valley including Coachella Valley Fringe-toed Lizard Habitat Conservation Plan (Steering Committee 1985), Teayawa Energy Center Draft EIS/EIR (CH2M Hill 2001), and Baja Natural Gas Pipeline (Division of State Lands 2002).

Reconnaissance level habitat assessments and focused protocol surveys were conducted between June 13 and June 25, 2002. These surveys included the plant communities/wildlife habitat type identification, incidental sensitive plant and wildlife species observations, and protocol surveys for special-status species including desert tortoise, flat-tailed horned lizard, and Coachella Valley fringed-toed lizard (*Uma inornata*). Ten special-status species were observed during the 2002 surveys, including two listed species: the desert tortoise and the Coachella Valley fringe-toed lizard; and eight sensitive (e.g., non-listed) species: foxtail cactus (*Escobaria vivipera alversonii*), Colorado Desert fringe-toed lizard (*Uma notata*), chuckwalla (*Sauromalus obesus*), black-tailed gnatcatcher (*Poliophtila melaneura*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanus ludovicianus*), prairie falcon (*Falco mexicanus*), and Coachella Valley round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*). Appendix E summarizes the findings of the reconnaissance level habitat assessments and focused protocol special-status species surveys.

3.1.1 Affected Environment

The desert region outside of the Colorado River Basin is commonly called Sonoran Desert or Colorado Desert. It includes the area between the Colorado River Basin and the Coast Ranges south of the Little San Bernardino Mountains and the Mojave Desert. Rainfall amounts are very minimal, averaging 3.19 inches per year (Western Regional Climate Center [WRCC] 2002). The average maximum temperature in the region vary from 61 °F in winter to 107 °F in summer. This

is a warmer, wetter desert than the Mojave Desert, and there is a stronger summer component with warm, monsoonal rains emanating from the Gulf of Mexico. Furthermore, the period of extremely warm weather is lengthy, extending from mid-spring through late fall. As a consequence of these climatic conditions, the vegetation is highly drought-adapted, but contains subtropical elements. In general, species richness and density are relatively low due to the low rainfall and high temperatures whether compared to more mesic environments or simply other regions of the Sonoran Desert.

Drainage patterns reflect both topography and vegetation. Along the broad bajadas in the eastern region of the project site, drainage is primarily characterized both by broad, gallery (e.g., large-tree) washes and numerous, narrow channels. Where the greater runoff from desert pavement flows into these numerous washes and channels (e.g., runnels), arboreal elements commonly seen in the larger washes are also present, although in a stunted form. Further west, numerous interconnected runnels are again common on sloping bajadas, but the sandy to cobbly washes that are present in the troughs between rolling hills are without arboreal elements, except for species of smaller stature such as smoke tree (*Psoralea argophylla*) and catclaw acacia (*Acacia greggii*). Throughout the area, percolation into the plain or nearby playa occurs where slopes are negligible.

Extensive portions of the I-10 corridor, through the Coachella Valley, have been disturbed as a result of human development within the valley. Cumulative effects to plant and wildlife species and their associated habitats within the project area are a result of the combination of past and present human activities related to agricultural and commercial interests. Human use of this area of the valley has resulted in continuous habitat alterations over the past 100 years. The most drastic alterations are a result of the various mining, transportation, telecommunication, natural gas pipeline, and transmission line construction projects that have resulted in the fragmentation and clearing of brush and scrub communities, rerouting of desert washes, and degradation of various lesser extent desert community types that previously existed on low-elevation private and state land. In addition, the effects of historic sheep overgrazing, military operations, off-road vehicles (ORV), and commercial and residential development have had varying influences on the local wildlife habitats and their corresponding wildlife resources. It is believed that some of these developments and land use practices benefited some wildlife groups while adversely affecting others.

Human occupation of the Coachella, Chuckwalla, and Imperial Valleys have significantly altered these local habitats and wildlife resources, as agricultural, military, and development activities have resulted in an overall reduction of biodiversity, riparian habitat, and population of wildlife species within the terrestrial habitats of the project area. Impacts directly affected by project design, construction, operation, and retirement are limited by degraded habitat conditions, including loss and fragmentation of native habitats and proximity of remaining habitat to industrial/agricultural development.

3.1.1.1 General Description of Habitats Along Proposed Project and Alternative Transmission Line Alignments

Plant and wildlife communities, and known species occurrences along the Proposed Project and alternative transmission line alignments are summarized in the following subsections. Sections 3.1.1.2 through 3.1.1.5 provide specific descriptions of plant and wildlife communities, including

special-status species, within the project area. Table 3.1-1 provides a summary of special-status species occurrence for each of the transmission line alignments.

3.1.1.1.1 Proposed Project and Alternative A

Three basic native plant communities (after Holland 1986) are intersected by the Proposed Project transmission line alignment: Agricultural Land, Sonoran Creosote Bush Scrub, and Desert Dry Wash Woodland (see Section 3.1.1.2, Vegetation Communities for a general description of these communities) (see Figure 3.1-1). In addition, partially-stabilized dunes are present on Palo Verde Mesa (west to approximately Wiley Well Road). Soils at the location are soft to loose-sand. There are several patches of low, active dunes; although, most of the area is stabilized to partially stabilized by a variation of Sonoran Creosote Bush Scrub. This community is dominated by very sparse to moderately sparse (approximately 10 percent cover) creosote bush (*Larrea tridentata*), galleta grass (*Pleuraphis rigida*), and burrobrush (*Ambrosia dumosa*); arboreal elements are common in the broader drainages. Several abandoned jojoba (*Simmondsia chinensis*) farms are crossed by or near the Proposed Project transmission line alignment.

South of Ford Dry Lake, west through Shaver Valley, the alignment intersects broad floodplains of contiguous to intermittent arboreal washes (e.g., Desert Dry Wash Woodland). The associated trees are aphyllous or microphyllous with a high proportion of chlorophyll in or beneath the bark or stems (Turner and Brown 1982) and primarily include ironwood (*Olneya tesota*) and blue palo verde (*Cercidium floridum*), with occasional to common honey mesquite (*Prosopis glandulosa*), ocotillo (*Fouquieria splendens*), and smoke tree. Elsewhere along the route, the plant community is characterized by variations of Sonoran Creosote Bush Scrub. This community is dominated by two species: creosote bush and burro bush. However, common elements variously include brittlebush (*Encelia farinosa*), ratany (*Krameria grayi*), chollas (*Opuntia echinocarpa*, *O. ramosissima*, and occasionally *O. bigelovii*), one to several species of indigo bush (*Psoralea schottii*, *P. arborescens* var. *simplicifolius*, and *P. emoryi*), cheesebush (*Hymenoclea salsola*), and ocotillo. Galleta grass and croton (*Croton californica*) are common in areas with the loosest sand. The transmission line route also passes through a remnant mesquite bosque in Morongo Wash in the Coachella Valley.

3.1.1.1.2 Alternative B

The Alternative B transmission line alignment passes through or adjacent to agricultural fields, jojoba fields, and citrus orchards from the proposed substation/switching station on Hobsonway south for approximately 3 miles. I-10 intersects the alignment immediately south of the proposed substation/switching station. South of this point, two basic plant communities (after Holland 1986) are traversed: Sonoran Creosote Bush Scrub and Desert Dry Wash Woodland. The Sonoran Creosote Bush Scrub in this area is of moderate-density (approximately 20 to 30 percent cover) and is dominated by creosote bush and burro bush, with patchily common galleta grass. Indigo bush, ratany, croton, and rayless encelia (*Encelia frutescens*) are occasional to common and three-awn grass (*Aristida* sp.) is occasional to common in the understory. Soils on this low, flat mesa are loose-sandy. The elevation is approximately 340 feet above mean sea level (msl).

Table 3.1-1
Potential and Recorded Occurrence of Special-Status Species by Project Alternative
Desert Southwest Transmission Line Project^a

SPECIES	STATUS ^b			HABITAT	LIKELIHOOD OF OCCURRENCE ^c		
	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
PLANTS							
Abram’s spurge (<i>Chamaesyce abramsiana</i>)	---	---	2	Mojavean desert scrub and Sonoran desert scrub that contain sandy soils	P	P	P
Algodones Dunes Sunflower (<i>Helianthus niveus tephrodes</i>)	---	CE	1B	In stabilized and partially stabilized dunes near the Algodones Dunes, Imperial Co.	N	P	N
Ayenia (<i>Ayenia compacta</i>)	---	---	2	Sandy and gravelly washes, canyons. In desert scrub, 450-6000 ft.	P	P	P
Coachella Milkvetch (<i>Astragalus lentiginosus</i> var. <i>coachellae</i>)	FE	---	1B	Limited to the Coachella Valley	P	N	N
Cove’s Cassia (<i>Senna covesii</i>)	FSC	---	1B	Dry washes and slopes in Sonoran Desert Scrub, below 2000 ft.	P	N	P
Creamy Blazing-star (<i>Mentzelia tridentate</i>)	---	---	1B	Mojavean Desert Scrub	P	N	P
Crown-of-thorns (<i>Koeberlinia spinosa tenuispina</i>)	---	---	2	Riparian woodland in Sonoran Desert Scrub	N	P	N
Crucifixion Thorn (<i>Castela emoryi</i>)	---	---	2	Mojave and Sonoran Desert scrubs; typically associated with drainages, sometimes playas	P	P	P
Desert Sand-parsley (<i>Ammoselinum giganteum</i>)	---	---	2	Known from one site, near Hayfield Dry Lake, at 1200 ft.	P	N	P
Fairyduster (<i>Calliandra eriophylla</i>)	---	---	2	Drainages and rock sites in Sonoran Desert Scrub in Imperial and San Diego counties	N	O	N
Foxtail Cactus (<i>Escobaria vivipera</i> var. <i>alversonii</i>)	FSC BLM: S	---	1B	Sandy to gravelly slopes between 250 and 4000 ft. in elevation	P	P	P
Giant Spanish Needle (<i>Palafoxia arida</i> var <i>gigantea</i>)	---	---	1B	Active and stabilized dunes in Imperial County	N	P	N
Glandular Ditaxis (<i>Ditaxis clariana</i>)	---	---	2	Sandy flats in Mojave and Sornoran Creosote Bush Scrub, below ~800 ft.	P	P	P
Harwood’s Milkvetch (<i>Astragalus insularis</i> var. <i>harwoodii</i>)	---	---	2	Dunes and windblown sands below 1200 ft	P	P	P
Las Animas Colubrina (<i>Colubrina californica</i>)	---	---	2	Mojave and Sonoran Desert Scrub, below 3000 ft.	P	N	P

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SPECIES	STATUS ^b			HABITAT	LIKELIHOOD OF OCCURRENCE ^c		
	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
Mecca Aster (<i>Xylorhiza cognata</i>)	---	---	1B	Steep canyon slopes (sandstone and clay) in Riverside Co. Sonoran Desert Scrub; below 1000 ft.	P	N	P
Mesquite Neststraw (<i>Stylocline sonorensis</i>)	---	---	1A	Known from one California site near Hayfield Spring; open sandy drainages	P	N	P
Munz's Cholla (<i>Opuntia munzii</i>)	FSC	---	1B	Sonoran Desert Scrub in sandy or gravelly soils in the Chocolate Mts.	N	P	N
Orcutt's Woody-aster (<i>Xylorhiza orcuttii</i>)	---	---	1B	Canyons, often in washes, in Sonoran Desert Scrub, Riverside Co.	P	N	P
Orocopia Sage (<i>Salvia greatae</i>)	---	---	1B	Mojavean and Sonoran Desert Scrub; gravelly/rocky bajadas, mostly near washes	P	N	P
Peirson's Milkvetch (<i>Astragalus magdalenae</i> var <i>peirsonii</i>)	FT	CE	1B	Slopes and hollows of mobile dunes, Imperial Co., under 800 ft.	N	P	N
Saguaro (<i>Carnegiea gigantea</i>)	---	---	2	Sonoran Desert Scrub; gravelly soils	N	P	N
Sand Food (<i>Pholisma sonora</i>)	FSC	---	1B	Desert dunes in southern Imperial Co., south and east	N	P	N
Slender Woolly-heads (<i>Nemacaulis denudata</i> var <i>gracilis</i>)	---	---	2	Dunes in coastal and Sonoran Desert scrubs, under 1500 ft.	P	P	P
Spearleaf (<i>Matelea parvifolia</i>)	---	---	2	Rocky ledges and slopes, 1000-6000 ft in Mojavean and Sonoran Desert Scrub	P	N	P
Wiggins's Croton (<i>Croton wigginsii</i>)		CR	2	Desert dunes and associated sandy arroyos in Imperial County	N	P	N
AMPHIBIANS							
Colorado River Toad (<i>Bufo alvarius</i>)	---	CSC	---	Deserts and arid woodlands; often near permanent water, but also frequents temporary pools	P	P	P
Couch's Spadefoot (<i>Scaphiopus couchii</i>)	--- BLM: S	CSC	---	Various arid communities in extreme southeastern California and east, south	P	P	P

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	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
REPTILES							
Chuckwalla (<i>Sauromalus obesus</i>)	FSC	---	---	Rock outcrops	P	O	P
Coachella Valley Fringe-toed Lizard (<i>Uma inornata</i>)	FT	CE Protected	---	Aeolian sand in the Coachella Valley	P	N	P
Colorado Desert Fringe-toed Lizard (<i>Uma notata</i>)	FSC BLM: S	---	---	Aeolian sand in the Sonoran Desert	O	P	O
Desert Rosy Boa (<i>Charina trivirgata gracia</i>)	FSC BLM: S	---	---	Rocky uplands and canyons; often near stream courses	P	P	P
Desert Tortoise (<i>Gopherus agassizii</i>)	FT	CT Protected	---	Most desert habitats below approximately 4000 feet in elevation	O	O	O
Flat-tailed Horned Lizard (<i>Phrynosoma mcalli</i>)	--- BLM: S	CSC	---	Sandy flats in extreme southeastern California	P	P	P
Red diamond rattlesnake (<i>Crotalus ruber</i>)	FSC	CSC	---	Desert slopes and rock outcrops	P	P	P
FISH							
Razorback Sucker (<i>Xyrauchen texanus</i>)	FE	CE Fully Protected	---	Stagnant backwaters and calm, shallow water in main streams; sandy or muddy substrates with little vegetation	N	P	N
INVERTEBRATES							
Andrew's Dune Scarab Beetle (<i>Pseudocotalpa andrewsi</i>)	FSC	---	---	Creosote bush scrub in the Algodones Dunes	N	P	N
Cheeseweed Owlfly (<i>Oliarces clara</i>)	FSC	---	---	Creosote bush scrub in rocky areas	P	P	P
BIRDS							
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	Delisted FWS: MNBNC	CE Fully Protected	---	Dry, open country, including arid woodlands; nests in cliffs	P-forager	P-forager	P-forager
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	FT	CE	---	Nests on cliffs, pinnacles, and in tall trees and snags	P(t)	P(t)	P(t)
Bendire's Thrasher (<i>Toxostoma bendirei</i>)	--- BLM: S	CSC	---	Woodland, <i>Yucca</i> spp., and stem-succulent Mojave Desert Scrub	P	P	P
Black-tailed Gnatcatcher (<i>Poliophtila melanura</i>)	---	---	---	Desert washes	O	O	O

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	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
Brown-crested flycatcher (<i>Myiarchus tyrannulus</i>)	---	CSC	---	Desert washes	P	P	P
Burrowing Owl (<i>Athene cunicularia</i>)	FSC BLM: S	CSC	---	Open, arid habitats	O	O	O
California Black Rail (<i>Laterallus jamaicensis coturniculus</i>)	FSC C	CT Fully Protected	---	Marshes	P	P	P
California Horned Lark (<i>Eremophila alpestris actia</i>)	---	CSC	---	Open desert habitats	P	O	P
Crissal- Thrasher (<i>Toxostoma crissale</i>)	---	CSC	---	Dense mesquite and willows along desert streams and washes	P	P	P
Elf owl (<i>Micrathene whitneyi</i>)	---	CE	---	Riparian floodplain	N	N	N
Ferruginous Hawk (<i>Buteo regalis</i>)	FSC	CSC	---	Arid, open country	P-winter forager	P-winter forager	P-winter forager
Gila Woodpecker (<i>Melanerpes uropygialis</i>)	---	CE	---	Desert woodland habitats	P	P	P
Gilded Northern Flicker (<i>Colaptes chrysoides</i>)	---	CE	---	Woodlands, including trees in small desert towns	P	P	P
Golden Eagle (<i>Aquila chrysaetos</i>)	BEP BLM: S	CSC	---	Open country; nests in large trees in open areas or cliffs	P-forager	P-forager	P-forager
Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	FE	CE	---	Summer resident in riparian scrub (willows and mesquite), maybe dry river bottom	P	P	P
LeConte's Trasher (<i>Toxostoma lecontei</i>)	--- BLM: S	CSC	---	Mojave and Sonoran Desert Scrub	O	O	O
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	FSC	CSC	---	Arid habitats with perches	O	O	O
Merlin (<i>Falco columbarius</i>)	FSC	---	---	Open country; nests in trees, cliffs, and on ground	P-winter forager	P-winter forager	P-winter forager
Mountain plover (<i>Charadrius montanus</i>)	PT	---	---	Agricultural fields	N	P winter forager	N
Prairie Falcon (<i>Falco mexicanus</i>)	---	CSC	---	Dry, open country; including arid woodlands; nests in cliffs	P-forager	P-forager	P-forager

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	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
Sonoran Yellow Warbler (<i>Dendroica petechia sonorana</i>)	---	CSC	---	Riparian habitats, woodlands, orchards	P	P	P
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	FE	CE	---	Dense, layered, riparian habitat	P	P	P
Vermillion Flycatcher (<i>Pyrocephalus rubinus</i>)	---	CSC	---	Arid streams and bottomlands; irrigation ditches, pastures	P	P	P
Western Least Bittern (<i>Ixobrychus exilis hesperis</i>)	FSC	CSC	---	Dense cattail marshes	P	N	P
Yellow Warbler (<i>Dendroica petechia brewsteri</i>)	---	CSC	---	Riparian woodland	P	P	P
Yuma Clapper Rail (<i>Rallus longirostris yumanensis</i>)	FE	CT Fully Protected	---	Dense cattail marshes along the Colorado River and Salton Sea tributaries	P	N	P
MAMMALS							
California Leaf-nosed Bat (<i>Macrotus californicus</i>)	FSC BLM: S	CSC	---	Caves and mines	P	P	P
Cave Myotis (<i>Myotis velifer</i>)	FSC BLM: S	CSC	---	Caves and mines in lower desert scrub habitats; also near the Colorado River	P	P	P
Coachella Valley Round-tailed Ground Squirrel (<i>Spermophilus tereticaudus chlorus</i>)	FC	CSC	---	Sandy soils in the Coachella Valley	P	N	P
Colorado Valley Woodrat (<i>Neotoma albigula venusta</i>)	---	---	---	Under mesquite in creosote bush scrub; southeastern California	P	P	P
Greater Western Mastiff Bat (<i>Eumops perotis californicus</i>)	FSC BLM: S	CSC	---	Roosts in steep, rocky canyons in arid scrub and woodland habitats	N	P	N
Nelson's Bighorn Sheep (<i>Ovis canadensis nelsoni</i>)	--- BLM: S	---	---	In mountains and adjacent valleys in desert scrub	N	P	N
Occult Little Brown Bat (<i>Myotis lucifugus occultus</i>)	FSC	CSC	---	Caves, mines, tunnels, bridges, especially in woodland; feeds in trees	P	P	P
Pale Townsend's Big-eared Bat (<i>Plecotus townsendii pallescens</i>)	FSC BLM: S	CSC	---	Broad habitat associations. Roosts in caves and manmade structures; feeds in trees	P	P	P

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	FED	STATE	CNPS		Proposed Project/Alt A	Alt B	Alt C
Pallid Bat (<i>Antrozous pallidus</i>)	--- BLM: S	CSC	---	Several desert habitats	P	P	P
Pocketed Free-tailed Bat (<i>Nyctinomops femorasaccus</i>)	---	CSC	---	Rocky, arid habitats in southern California, including desert scrubs, desert wash	P	P	P
Spotted Bat (<i>Euderma maculatum</i>)	FSC BLM: S	CSC	---	Poorly documented, but appears to be similar to other plecotines	P	P	P
Yuma Myotis (<i>Myotis yumanensis</i>)	FSC BLM: S	CSC	---	Cliff crevices, caves and mines	P	P	P
Yuma Puma (<i>Felis concolor browni</i>)	FSC	CSC	---	Mountains and densely vegetated woodlands near the Colorado River	N	P	N

a. Only those species that were observed during surveys or for which habitat exists in the impact zone are included in this table. CNPS Lists 1 and 2 species are not included because they are not considered to be at risk and receive no CEQA consideration.

b. Applicable Status codes are as follows (see text for detailed definitions):

c. Potential for occurrence is based on survey results on the preferred alternative and habitat assessments and previous surveys on Alternative A and B.

Likelihood of Occurrence:

N – No/Will not occur

P – Possible or probable; both nesting (burrowing) and foraging unless otherwise noted

O - Observed during surveys

P(t) – Possible, but as transient only (no habitat)

Listed per FESA and CESA:

Federal:

FE Endangered

FC Candidate species for listing

FT Threatened

FSC Species of Special Concern (species whose conservation status may be of concern to the USFWS, but have no official status [formerly C2 species])

BLM:

S Bureau of Land Management Sensitive Species

State:

SC CDFG Species of Special Concern (species that appear to be vulnerable to extinction)

State Protected Species that cannot be taken without a permit from the CDFG

Fully Protected Species that cannot be taken without authorization from the Fish and Game Commission

WHBA Wild Horse and Burro Act of 1971

CNPS:

List 1A Plants presumed extinct in California

List 1B Plants rare and endangered in California and elsewhere

List 2 Plants rare and endangered in California but more common elsewhere

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Figure 3.1-1 Vegetation Communities

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For approximately 10 miles south of the proposed substation/switching station, the Alternative B transmission alignment passes along the mesa through relatively flat to undulating topography. Drainage is through to narrow shallow (less than 1 yard wide and deep) washes. The topography then gradually becomes more rolling as the transmission line nears the Palo Verde Mountains. The drainages become wider, more incised, and somewhat arboreal, representative of the Desert Dry Wash Woodland community. Blue palo verde, ironwood, and catclaw acacia are common in those washes. Where the topography is gently rolling, the shrub community is very sparse (less than 10 percent cover) and rises are largely represented by mature or somewhat consolidated, densely gravelly desert pavement. Plantain (*Plantago ovata*), Arabian grass (*Schismus arabicus*), and fagonia (*Fagonia laevis*) are common understory representatives. Ocotillo is a rare upperstory species.

The Alternative B transmission line alignment travels through a pass in the Palo Verde Mountains south of the proposed substation/switching station on Hobsonway. Average slopes along the transmission line alignment are approximately 25 to 30 percent and elevations are approximately 800 feet msl. The plant community is very sparse (less than 5 percent cover) Sonoran Creosote Bush Scrub dominated by creosote bush. Common species include burro bush, rayless encelia, blue palo verde (washes), ironwood (washes), chuckwalla bush (*Bebbia juncea aspera*), desert lavender (*[Hyptis emoryi]* washes), smoke tree (washes), and beavertail cactus (*Opuntia basilaris*). Rare species include ocotillo and desert fir (*Peucephyllum schottii*). The parent material of the hills in the northern portion is limestone; desert holly (*Atriplex hymenelytra*) is common there.

South of the Palo Verde Mountains is a broad floodplain representative of Desert Dry Wash Woodland. This is a drought-deciduous, microphyllous, riparian thorn scrub woodland represented by a wash system of densely vegetated, broad to narrow, arboreal washes alternating with very sparse, flat to gently undulating pavement. Characteristic species include blue palo verde, ironwood, catclaw acacia, smoke tree, jojoba, galleta grass, and fairyduster (*Calliandra eriophylla*) in the drainages; and creosote bush (aspect dominant), burro bush, ratany, beavertail cactus, ocotillo, brittle bush, pencil cholla (*O. ramosissima*), buckhorn cholla (*O. acanthocarpa*), silver cholla (*O. echinocarpa*), and teddybear cholla (*O. bigelovii*) in the inter-wash spaces. Understory species include plantain, Abram's spurge (*Chamaesyce albomarginata*), buckwheat (*Eriogonum* spp), pincushion (*Chaenactis* spp), and mignonette (*Oligomeris linifolia*).

The Alternative B alignment passes south, parallel to SR-78, for approximately 2 miles over gently rolling terrain. Most of the habitat along this segment is a sparse creosote bush scrub variant (creosote bush, burro bush, ocotillo, and teddybear cholla); trees are occasional and confined to the troughs between hills. This habitat levels to an open, gently undulating to flat bajada with narrow, shallow runnels and well-vegetated arboreal washes alternating with gravelly and cobbly desert pavement. As the Alternative B transmission line alignment passes west along the UPRR alignment, it crosses a floodplain out of the Chocolate Mountains and at the toe of the Algodones Dunes. The latter is exclusively on the south side of the railroad, from SR-78 to Tortuga, where it extends briefly into the railroad right-of-way. Vegetation is low-diversity Sonoran Creosote Bush Scrub, dominated by creosote bush and burro bush, with scattered ironwood and/or blue palo verde. The north side of the railroad right-of-way is extensively diked for the railroad due to the sheet flow, and the vegetation community is a fairly homogeneous and highly arboreal creosote bush/microphyll woodland community.

West of Tortuga, near the Coachella Canal, the low elevation, approximately 100 feet, results in loose-sandy substrates and sinks. The sinks, once mesquite bosques, are now heavily vegetated by tamarisk (*Tamarisk* spp.). Near the Midway Substation, the plant community is creosote bush/saltbush scrub, dominated by creosote bush and four-winged saltbush (*Atriplex canescens*). However, at the East Highline Canal crossing, there is a mesquite bosque with dense arrowweed (*Pluchea sericea*), tamarisk, screwbean mesquite (*Prosopis pubescens*), and giant reed (*Arundo donax*).

3.1.1.1.3 Alternative C

The Alternative C transmission line alignment would be approximately 117 miles in length and essentially parallels the Proposed Project, which is generally less than 1 mile north of Proposed Project transmission line alignment. The transmission line would originate west of the City of Blythe at the new substation/switching station and proceed southwest along existing transmission line right-of-ways approximately 1 mile. At this point the line would turn west and proceed approximately 3 miles to a point where it turns northwest, and crosses I-10. From that point, the line would parallel I-10 (crossing I-10 one time along this segment). From approximately 2.5 miles east of Cactus City continuing west to Devers Substation, the Alternative C transmission line alignment is the same as that of the Proposed Project. As such, habitat communities along the Alternative C transmission line alignment are similar to those described for the Proposed Project for much of the alignment. Some differences occur where the Alternative C alignment diverges from the Proposed Project alignment for up to 2.5 miles.

The I-10 corridor, which lies less than 1 mile from Alternative C, compromises the overall quality of habitat and wildlife along this segment. Data from several studies (e.g., Nicholson 1978; Karl 1989; Boarman and Sazaki 1996; LaRue 1993; and Rosen and Lowe 1994) strongly support the concept that heavily traveled roads can substantially increase mortality of tortoises and other wildlife.

3.1.1.2 Vegetation Communities

Vegetative communities are a collection of plant species that occur together in the same area and are generally defined by both species composition and relative abundance. The vegetative community descriptions and nomenclature used in this section are based on the identification of vegetative species (to the extent possible) within the project area. The vegetative communities described below generally correlate with wildlife habitat types and are adopted from Holland (1986).

Eight basic plant communities (after Holland 1986) are traversed by the transmission line alignments: Sonoran creosote bush scrub, desert dry wash woodland, agricultural land, Sonoran desert mixed scrub, Mojave creosote bush scrub, Mojave mixed woody scrub, alkali playa, and urban/built-up land (see Figure 3.1-1).

3.1.1.2.1 Sonoran Creosote Bush Scrub

The Sonoran creosote bush scrub community is the basic creosote shrub of the Colorado Desert and occurs in well-drained secondary soils of slopes, fans and valleys rather than upland sites with thin residual soils or sites with high soil salinity. The community is dominated by creosote

bush and burro bush, with common vegetative elements including brittlebush, ratany, chollas and indigo bush. Galleta grass and croton are common in areas with loose sand. Shrubs are typically 0.5 to 3 meters tall, widely spaced, and usually with bare ground between them. Growth occurs from winter to early spring (or rarely at other seasons) if rainfall is sufficient. Shrubs may be dormant for long periods. Many species of ephemeral herbs may flower in late February and March if the winter rains are sufficient.

3.1.1.2.2 Desert Dry Wash Woodland

The desert dry wash woodland community is found in association with the larger drainages of the region. The associated trees are aphyllous or microphyllous with a high proportion of chlorophyll in or beneath the bark or stems (Turner and Brown 1982) and primarily include ironwood and blue palo verde, with variously common honey mesquite, smoke tree, and catclaw acacia.

3.1.1.2.3 Agricultural Land

Agricultural land may be defined broadly as land used primarily for production of food and fiber. However, pasture and other cultivated land may be infrequently included in this classification.

3.1.1.2.4 Sonoran Desert Mixed Scrub

This community contains both Sonoran mixed woody scrub and Sonoran mixed woody and succulent scrub and typically occurs in rocky, well-drained slopes and alluvial fans, usually at the base of mountains. The community is very similar to Sonoran creosote bush scrub, but the terrain is usually more varied and moisture supply often greater. It is dominated by shrubs, 0.5 to 3 meters tall, similar in aspect to Sonoran creosote bush scrub, and desert dry wash woodland, with no clear dominant. The Sonoran mixed woody and succulent scrub type with succulents is the only Colorado Desert community with substantial dominance of cacti and other stem succulents. Many stands may have Agave (*Agave deserti*), brittlebush (*Encelia farinosa*), ocotillo (*Fouquieria splendens*), pygmy cedar (*Peucephyllum schottii*), and Mohave yucca (*Yucca schidigera*) in varying proportions.

3.1.1.2.5 Mojave Creosote Bush Scrub

This is the basic creosote shrub of the Mojave Desert, dominated by creosote bush and burro bush, and typically occurs on well-drained secondary soils with very low available water holding capacity on slopes, fans, and valleys rather than upland sites with thin residual soils or sites with high soil salinity. Winter temperatures are often below freezing, and the community generally intergrades at higher elevations. Shrubs are typically 0.5 to 3 meters tall, widely spaced, and usually with bare ground between. Growth occurs during spring and many species of ephemeral herbs may flower in late March and April if the winter rains are sufficient. Other, less numerous, species of annuals appear following summer thundershowers.

3.1.1.2.6 Mojave Mixed Woody Scrub

This woody scrub community is generally open enough to be passable, and usually characterized by Mohave yucca, wild buckwheat (*Eriogonum fasciculatum*), and bladderpod (*Isomeris arborea*). Most of the dominant constituent species also occur in adjacent communities. The community is widely but erratically scattered along the eastern base of the Sierra Nevada from

the southwestern Owens Valley southward along the Tehachapis, San Gabriel, San Bernardino, San Jacinto, and Peninsula Ranges to northern Baja California. Woody scrub typically occurs between 2,000 to 5,000 feet in very shallow, overly drained, often rolling to steep soils, usually derived from granitic parent materials. These sites have extremely low water holding capacity, mild alkalinity, and low salinity.

3.1.1.2.7 Alkali Playa

Alkali playa communities typically contain low, grayish, microphyllous and succulent shrubs. Total cover is usually very low due to wide spacing between shrubs and minimally developed understory. This community is associated with poorly drained soils with high salinity and/or alkalinity due to evaporation of water that accumulates in closed drainages. In addition, the playa often has high water tables that produce a salt crust on the surface.

3.1.1.2.8 Urban/Built-up Land

Urban or built-up land is comprised of areas of intensive use with much of the land covered by constructed structures. Included in this category are cities; transportation, power, and communication facilities; and areas such as those occupied by mills, shopping centers, industrial and commercial complexes; and institutions that may, in some instances, be isolated from urban areas.

3.1.1.3 Waters of the United States

Numerous ephemeral and intermittent washes occur along the transmission route alternatives. These washes capture high-energy surface runoff flows from precipitation events, and are primarily characterized both by broad, gallery (e.g., large-tree) washes and numerous incised channels with sandy to cobbly substrates. The larger washes are densely vegetated along the banks by both shrubs and aphyllous or microphyllous trees. By contrast, the smaller, intermittent washes form a network of shallow rills that often fail to either flow or provide through-flow to larger drainages. They are typically only a yard or less wide, 1 to 3 inches deep, and irregularly vegetated by locally common shrub species. In contrast, the lack of residual soil moisture, and the scouring of the high-energy flow of these intermittent washes preclude the growth of most plants and shrubs.

3.1.1.4 Common Wildlife

The vegetative communities described above serve as sources of reproduction, nesting, cover, shelter, and foraging/feeding habitats for a variety of wildlife species. Although Sonoran creosote bush scrub is the most common habitat type along the transmission alternatives, desert dry wash woodland and riparian areas make up a small percentage of the total land area traversed. However, these are the most biologically diverse areas and support a greater density of desert species.

3.1.1.4.1 Mammals

In general, large mammals, except for the coyote (*Canis latrans*) and desert kit fox (*Vulpes macrotis*), are unusual in the project area (Brown 1982). However, mule deer (*Odocoileus hemionus*), desert big horn sheep (*Ovis canadensis*), and introduced feral burros may occur as transients. Most of the mammals common to the general area have adapted to high diurnal

temperatures by spending much of the day underground or in aestivation. As a result, the project area supports a high proportion of burrowing rodents. Other typical mammalian species may include bobcat (*Lynx rufus*), antelope ground squirrel (*Ammospermophilus leucurus*), and round-tailed ground squirrel (*Spermophilus tereticaudus*).

3.1.1.4.2 Avifauna (Birds)

The open, sparsely, vegetated habitats of the project area do not typically support diverse species of birds; they are usually associated with structurally taller and denser habitats found in areas receiving more annual rainfall (Brown 1982). Passerine birds (e.g., those species that includes over half of all living birds and consist mainly of altricial songbirds of perching habits) are largely arid-adapted desert species. In general, bird diversity increases in the project area during the spring and fall when neotropical migrants pass through the general area in route to summer breeding or wintering grounds. The various passerine bird species inhabiting the desert are often site-specific according to corresponding habitat types. Common passerine species may include black-throated sparrow (*Amphispiza bilenata*), California horned lark (*Eremophila alpestris actia*), verdin (*Auriparus flaviceps*), black-tailed gnatcatcher, and phainopepla (*Phainopepla nitens*). Raptor species are generally infrequent and may include red-tailed hawk (*Buteo jamaicensis*), great-horned owl (*Bubo virginianus*), and American kestrel (*Falco sparverius*).

3.1.1.4.3 Herpetofauna (Reptiles)

Rock outcrops, bajadas, washes, and gravel plains each support a varied and often different herpetofauna; however, certain species are common across most habitats. Common herpetofauna may include side-blotched lizard (*Uta stansburiana*), zebra tailed lizard (*Callisaurus draconoides*), western whiptail (*Cnemidophorus tigris*), gopher snake (*Pituophis melanoleucus*), and coachwhip (*Masticophis flagellum*).

3.1.1.5 Special-Status Species

Several species known to occur within the project area are considered “special status” because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protection defined in federal or state endangered species legislation. Others have been designated as “sensitive” on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as “special-status species,” following a convention that has developed in practice but has no official sanction.

Special-status species may inhabit areas where facilities associated with the Proposed Project or alternatives would be located. Each of these potential species are discussed in detail below, and Table 3.1-1 summarizes the known occurrence or potential occurrence of each species within the Alternative A, B, and C transmission line alignments. In addition, potential locations of federally and state-listed species and transmission alignment alternative mileposts are shown in Appendix J.

Surveys and data collection of the Proposed Project and alternative transmission line alignments were conducted to determine the presence of special-status species and the potential of such

species to occur within areas that could be affected by the project. Survey methods and a summary of species observed during surveys are provided in Section 3.1.1.5.10.

3.1.1.5.1 Special-Status Species Expected to Occur

Information on the habitat and range of each special-status species relevant to those portions of the right-of-way where these species might occur is presented in Table 3.1-1. In addition, the observed locations of each species are discussed in the text section that follows the Table below, along with other potential locations along each alternative alignment.

Proposed Project

Ten special-status species were observed during the 2002 surveys, including two listed species: the desert tortoise and the Coachella Valley fringe-toed lizard; and eight sensitive species: foxtail cactus, Colorado desert fringe-toed lizard, chuckwalla, black-tailed gnatcatcher, burrowing owl, loggerhead shrike, prairie falcon, and Coachella Valley round-tailed ground squirrel. In addition, it is possible that 38 special-status species inhabit the Proposed Project right-of-way or immediate adjacent areas. However, no conclusive evidence of these species was observed during the focused surveys possibly due to their rarity, behavior, or poor germination or growth as a result of poor rainfall in the winter of 2001-2002.

Alternative A

In general, all of the special-status species observed on the Proposed Project alignment can be expected to occur on Alternative A in parallel miles.

Alternative B

Several special-status species have been observed on the right-of-way or in the immediate area on previous surveys (Karl 1992, 1993, 1994a, 1994b; Division of State Lands 2002). These include two listed species: the desert tortoise and either a Gila woodpecker (*Melanerpes uropygialis*) or gilded northern flicker (*Colaptes chrysoides*); and eight sensitive species: fairyduster, Couch's spadefoot (*Scaphiopus couchii*), chuckwalla, desert rosy boa (*Charina trivirgata gracia*), black-tailed gnatcatcher, LeConte's thrasher (*Toxostoma lecontei*), and loggerhead shrike.

Alternative C

In general, all of the special-status species observed on the Proposed Project alignment can be expected to occur on Alternative C in parallel miles. Because the habitat quality on the right-of-way is generally lowered from that on the Proposed Project, due to the proximity of the freeway, densities of wildlife species would be anticipated to be lower on Alternative C.

3.1.1.5.2 Special-Status Plants

3.1.1.5.2.1 Abram's Spurge - (*USFWS: None; CDFG: None; CNPS: List 2*). This prostrate annual is found on sandy flats in the Mohave and Sonoran Desert at elevations below approximately 650 feet (Hickman 1993).

Proposed Project

Possible locations on the right-of-way would be the sandy soils in various parts of the Coachella Valley and approximately east of Wiley Well Road.

Alternative A

Potential for occurrences would be similar to the Proposed Project.

Alternative B

On Alternative B, the most likely locations for Abram's spurge would be the sandier portions of the right-of-way within the first couple miles south of Bucks Substation; and along the railroad right-of-way approximately between the Coachella Canal and Mammoth Wash, if the right-of-way is on the north side of the railroad and between the Coachella Canal, if the right-of-way is on the south side of the railroad.

Alternative C

Potential for occurrences would be similar to the Proposed Project.

3.1.1.5.2.2 Algodones Dunes Sunflower - (*USFWS: None; CDFG: Endangered; CNPS: List 1B*). This woody, herbaceous perennial is 12 to 80 inches tall (Munz and Keck 1968). The habitat of the species is aeolian sands in Sonoran Creosote Bush Scrub, below 900 feet. The species ranges from extreme southeastern Imperial County to Texas and Sonora (Mexico) (Hickman 1993; CNPS 2001) and it is ranked by CNPS as extremely rare and is only known from occurrences in the unstabilized sand dunes in the Algodones Dunes system of Imperial County.

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

This species may potentially occur in the vicinity of Mammoth Wash, which is east of Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.3 Ayenia - (*USFWS: None; CDFG: None; CNPS: List 2*). This perennial herb is known from rocky canyons in Mojavean and Sonoran Desert Scrubs, below 1,600 feet (Hickman 1993). The range includes Riverside, San Bernardino, and San Diego Counties; Arizona, Sonora (Mexico) and Baja California (CNPS 2001).

Proposed Project

Near the Proposed Project right-of-way, CNDDDB has a recorded location for Ayenia in the Chuckwalla Mountains. Potential locations would be along the northern edge of the Chuckwalla and Orocopia Mountains, especially the former, where deeply incised arroyos extend from the mountains, crossing the right-of-way.

Alternative A

Potential for occurrences would be similar to the Proposed Project.

Alternative B

On the Alternative B right-of-way, Ayenia may be found in the Palo Verde Mountains and in rocky areas adjacent to the Chocolate Mountains.

Alternative C

Potential for occurrences would be similar to the Proposed Project.

3.1.1.5.2.4 Coachella Valley Milkvetch - (*USFWS: Endangered; CDFG: None; CNPS: List 1B*). This species is found from the Coachella Valley (CNDDDB 2002), east to approximately Desert Center (Charis Corporation 2001). It is an herbaceous perennial in which above-ground portions die back during drought periods. While it is restricted to loose-sandy soils, including aeolian, the substrate over the soil may be gravelly. Microhabitat sites are often associated with disturbance, consistent with many legumes. In a 1987 survey of the SCE Devers-Palo-Verde Transmission Line, individuals were commonly found in road berms (Karl and Uptain 1987). It is known from approximately 20 – 25 locations between Cabazon and the west boundary of Indio and it has been found throughout the Coachella Valley (USFWS 2002a; Karl and Uptain 1987; CNDDDB 2002; CNPS 2002). Approximately 20 to 25 percent of the documented plant locations are protected within the Coachella Valley Preserve System, while an estimated 75 to 80 percent of the known Coachella Valley Milkvetch locations are found on unprotected lands (USFWS 2002a).

Proposed Project

Coachella Valley milkvetch may potentially occur in areas along the right-of-way that contain loose, wind blown or alluvial sands on dunes/flats within the Coachella Valley.

Alternative A

Potential for occurrences would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

Potential for occurrences would be similar to the Proposed Project.

3.1.1.5.2.5 Cove's Cassia - (*USFWS: Species of Concern; CDFG: None; CNPS: List 1B*). This subshrub occupies sandy microsites (washes and slopes) in Sonoran Desert scrub habitats. The narrow elevational range is approximately 1,600 to 1,900 feet (Hickman 1993).

Proposed Project

Based largely on elevational constraints, Cove's cassia could occur within the vicinity of the base of the Chuckwalla Mountains.

Alternative A

Potential for occurrences for Cove's Cassia would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

Potential for occurrences for Cove's Cassia would be similar to the Proposed Project.

3.1.1.5.2.6 Crown-of-Thorns - (*USFWS: None; CDFG: None; CNPS: List 2*). This deciduous shrub is known from only ten occurrences in California (CNPS 2001). It grows in riparian woodland and Sonoran Creosote Bush Scrub, below 1,600 feet (Hickman 1993).

Proposed Project

Crown-of-Thorns could be found along the entire right-of way, especially in association with drainages.

Alternative A

Crown-of-Thorns could be found along the entire right-of-way, especially in association with drainages.

Alternative B

Crown-of-Thorns could be found along the entire right-of-way, especially in association with drainages; it is probably least likely west of the Coachella Canal due to the low elevation and sandy habitat.

Alternative C

Crown-of-Thorns could be found along the entire right-of-way, especially in association with drainages.

3.1.1.5.2.7 Crucifixion Thorn - (*USFWS: None; CDFG: None; CNPS: List 2*). This plant is a much-branched, thorny shrub, generally less than 4 feet tall (Hickman 1993). The species range from the southern Mojave and Sonoran Deserts from California east and south to Arizona and Sonora, Mexico. Habitats include gravelly slopes in Mojave and Sonoran Desert Scrub vegetation, typically in association with drainages.

Proposed Project

While Crucifixion Thorn was not observed on the right-of-way, this species may potentially occur on the right-of-way along the bajada and valley habitats from approximately Palo Verde Mesa west to Dillon Road.

Alternative A

Potential for occurrences would be similar to the Proposed Project.

Alternative B

No individuals were observed on the right-of-way from Bucks Substation to Ogilby Road (Karl 1994a) or on NBP (Division of State Lands 2002) surveys along SR-78. However, one CNDDDB record from 1992 cites a population west of the right-of-way near Midway Well.

Alternative C

Potential for occurrences would be similar to the Proposed Project.

3.1.1.5.2.8 Desert Sand Parsley - (*USFWS: None; CDFG: None; CNPS: List 2*). Desert sand parsley is an annual herb that is known only from one location at Hayfield Dry Lake (CNPS 2001). The macrohabitat is Sonoran Desert Scrub at an elevation of 1,300 feet. The microhabitat is undescribed, with the exception that Hickman (1993) describes the occupied soils as heavy soil under shrubs.

Proposed Project

Since only three known occurrences exist for Desert Sand Parsley, it is extremely unlikely that it has the potential to occur along the right-of-way. However, a portion of the alignment does occur near Hayfield Dry Lake.

Alternative A

Potential for occurrences would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

Potential for occurrences would be similar to the Proposed Project.

3.1.1.5.2.9 Fairyduster - (*USFWS: None; CDFG: None; CNPS: List 2*). This densely branched, unarmed shrub is mostly less than 14 inches tall. The species range extends from San Diego and Imperial Counties to Arizona, Texas and northern Baja California. Occupied microhabitats are restricted to sandy drainages (mostly shallow washes) in Sonoran Creosote Bush Scrub, below 1,000 feet in elevation.

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

On the Alternative B right-of-way, fairyduster will be found from the Palo Verde Mountains south to SR-78 and it is likely that this species will also be found on the from the SR-78 south to the railroad right-of-way. If the Alternative B right-of-way is on the north side of the railroad right-of-way, the species may be found as far east as Tortuga.

During 1994 surveys, a total of 1,825 individuals were observed on the right-of-way (Karl 1994a). Distribution generally occurred from the southern end of the Palo Verde Mountains south along the Western transmission line right-of-way, continuing east of SR-78. The greatest densities occurred east of SR-78. NBP Project surveys along SR-78 in 2001 observed fairyduster only along Ogilby Road and south (Division of State Lands 2002).

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.10 Foxtail Cactus - (*USFWS: Species of Concern; BLM: Sensitive; CDFG: None; CNPS: List 2*). It occupies sandy to rocky soils in creosote bush scrub habitats in southeastern California, between 250 and 4,000 feet in elevation (Hickman 1993). The *Escobaria vivipera* variety *alversonii* is the only species growing in the vicinity of the proposed alternatives.

Proposed Project

Seventy-one individuals were observed during June surveys along the Proposed Project transmission line right-of-way. The greatest concentrations were found on Chuckwalla Bench, from Alligator Rock west for approximately 6 miles.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

Along the Alternative B transmission line right-of-way, Foxtail Cactus were not found during 1994 surveys on those portions of the right-of-way where habitat exists (Karl 1994a) and no occurrences have been recorded south of Blythe.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.11 Giant Spanish Needle - (*USFWS: None; CDFG: None; CNPS: List 1B*). This 3- to 6-foot-tall, erect annual or short-lived perennial grows from a woody base. It occupies desert dunes below approximately 350 feet in elevation. The range includes Imperial County and Sonora (CNPS 2001) to southwestern Arizona (Hickman 1993).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

On the Alternative B right-of-way, Giant Spanish Needle may be present along the railroad right-of-way and Mammoth Wash, just east of Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.12 Glandular Ditaxis - (*USFWS: None; CDFG: None; CNPS: List 2*). This herbaceous perennial is found from the Coachella Valley to Arizona and Sonora, Mexico at elevations below approximately 800 feet (Hickman 1993). Aerial portions of the plant die back during dry periods; as such, it often is not evident during drought.

Proposed Project

Glandular ditaxis may be found in the sandier portions of the right-of-way, in various parts of the Coachella Valley and approximately east of Wiley Well Road.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

Glandular ditaxis may be found in the sandier portions of the right-of-way, especially near the proposed substation/switching station; and along the railroad right-of-way between approximately the Coachella Canal and Mammoth Wash.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.13 Harwood's Milkvetch - (*USFWS: None; CDFG: None; CNPS: List 2*). This annual herb grows in dunes and windblown sand in Mojave and Sonoran Creosote Bush Scrubs at elevations of 300 to 1,200 feet (Munz and Keck 1968; and Hickman 1993). These flowers bloom from February to May.

Proposed Project

Harwood's Milkvetch is possible in the sandier reaches of the right-of-way near Blythe.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

Harwood's Milkvetch potentially occupies the sandier portions of the right-of-way, especially near the proposed substation/switching station; and along the railroad right-of-way approximately between the Coachella Canal and Mammoth Wash.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.14 Las Animas Colubrina - (*USFWS: None; CDFG: None; CNPS: List 2*). This medium-tall shrub grows in Sonoran Desert Creosote Bush Scrub below 3,000 feet (Hickman 1993; CNPS 2001). It is known from Riverside County south and east to Arizona and Mexico, and near the right-of-way. This species is known from the Chuckwalla Valley area.

Proposed Project

Las Animas Colubrina is known from Riverside County south and east to Arizona and Mexico. Near the right-of-way, this species is known from the Chuckwalla Valley area.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.15 Little San Bernardino Mountains Gilia - (*USFWS: None; CDFG: None; CNPS: List 1B*). This annual is found in Mojave and Sonoran Creosote Bush Scrub and Joshua tree woodland near the San Bernardino Mountains in Riverside and San Bernardino Counties (CNPS 2002). Elevational limits are 500 to 4,000 feet (Munz and Keck 1968).

Proposed Project

There are several known locations near the Devers Substation and in the western Coachella Valley.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

The potential for occurrence would be similar to the Proposed Project.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.16 Mesquite Nest Straw - (*USFWS: None; CDFG: None; CNPS: List 1A*). This annual herb is known in California from a single 1930 collection at Hayfield Dry Lake. Its range also extends to southeastern Arizona and northeastern Sonora (Mexico).

Proposed Project

Mesquite Nest Straw occupied habitat is open, sandy drainages below 1,200 feet (Hickman 1933). The lack of distinctly identified habitat and range precludes identification of specific portions of the route where the species may be growing. As such, the right-of-way within the Hayfield Dry Lake should be considered as potential habitat.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.17 Munz's Cholla - (*USFWS: Species of Concern; CDFG: None; CNPS: List 1B*). CNPS (1994) stated that this species is known from fewer than ten occurrences in the Chocolate Mountains. Munz's cholla is known from gravelly and sandy sites in Sonoran Desert scrub habitat (Munz and Keck 1968) below 1,000 (Benson 1969) to 1,800 feet in elevation (Hickman 1993).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

The known locations of Munz's Cholla are on the CMAGR well north and northwest of the right-of-way, so it is unlikely that it will inhabit the Alternative B right-of-way. It was not seen in 1994 surveys of the right-of-way from Blythe south to SR-78 (Karl 1994a) or on NBP (Division of State Lands 2002) surveys along SR-78. The remainder of the right-of-way may be too low and/or sandy to afford adequate habitat.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.18 Orocopia Sage - (*USFWS: None; CDFG: None; CNPS: List 1B*). This species is known from Riverside and Imperial Counties near the Chocolate and Orocopia Mountains. The elevational range is approximately 100 to 750 feet (Hickman 1993; CNPS 2001). Habitat is varied Sonoran Desert Scrubs, although known sites are gravelly to rocky alluvial fans and canyons.

Proposed Project

Orocopia sage may be found along the Proposed Project right-of-way from the northeastern end of the Chuckwalla Mountains west to the alluvial flows from the southern end of the San

Bernardino Mountain. In 1987, surveys for the SCE Devers-Palo Verde Transmission Line, Orocopia sage was observed (Karl and Uptain 1987) in the Proposed Project transmission line alignment.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.19 Pierson's Milkvetch - (*USFWS: Threatened; CDFG: Endangered; CNPS: List 1B*). This annual or herbaceous perennial inhabits desert dunes in Imperial and possibly San Diego counties, Arizona, Baja California and Sonora (Mexico). It is known in California from fewer than 20 occurrences (CNPS 2001).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

On the Alternative B right-of-way, Piersons Milkvetch may potentially occur within the vicinity of Mammoth Wash, just east of Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.20 Saguaro - (*USFWS: None; CDFG: None; CNPS: List 2*). This tall, columnar cactus, 10 to 50 feet high, occupies rocky Sonoran Desert Scrub habitats, generally between 150 and 4,500 feet in elevation. The range includes far eastern California, Arizona, and Sonora (Mexico) (CNPS 2001).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

Saguaro was not seen in 1994 surveys of the right-of-way from Blythe south to SR-78 (Karl 1994a), so it is unlikely that any individuals grow in that segment of the right-of-way. The remaining portion where saguaro may grow is from SR-78 to Glamis, although NBP surveys (Division of State Lands 2002) failed to find any individuals immediately adjacent to SR-78.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.21 Sand Food - (*USFWS: Species of Concern; CDFG: None; CNPS: List 1B*). This fleshy, scaly herb parasites the roots of such shrubs as burro bush, arrow-weed, and coldenia. It is found in desert dunes below approximately 600 feet in elevation. The range includes extreme southeastern California, Arizona, and Sonora (Mexico) (CNPS 2001).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

San Food presence would only occur if the Alternative B right-of-way is south of the railroad tracks. There is no habitat on the north side of the railroad right-of-way.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.2.22 Slender Woolly-heads - (*USFWS: None; CDFG: None; CNPS: List 2*). This annual herb grows in dune habitats in southern California, Arizona, and northwest Mexico (CNPS 2001).

Proposed Project

Slender Woolly-heads may be found in the loose-sandy portions of the right-of-way, from Palo Verde Mesa west to approximately 2 miles west of Wiley Well Road. It may also occur near Dillon Road.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.23 Spearleaf - (*USFWS: None; CDFG: None; CNPS: List 2*). Spearleaf is an herbaceous perennial occupying rocky desert scrub habitats from San Bernardino County south to Baja California and east to Texas (CNPS 2001). Known elevations in California are approximately 1,300 to 3,300 feet (CNDDB 2001).

Proposed Project

Potential locations for spearleaf on the Proposed Project right-of-way would include cobbly fans and toe slopes.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

No potential for occurrence within this alternative.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.2.24 Wiggins's Croton - (*USFWS: None; CDFG: Rare; CNPS: List 2*). This moderate-sized shrub (less than 3 feet tall) occupies sand dunes at elevations less than 300 feet in southeastern California, Arizona and northwestern Mexico (Hickman 1993).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

On the Alternative B right-of-way, Wiggins's Croton may potentially occur within the vicinity of Mammoth Wash, just east of Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.3 Special-Status Fish

3.1.1.5.3.1 Razorback Sucker - (*USFWS: Endangered; CDFG: Endangered, Fully Protected*). This endangered fish species requires sandy, muddy or gravelly substrates with little vegetation in relatively fast-moving water (Steinhart 1990). Historically, it inhabited mainstream Colorado River and major tributaries from Wyoming to Sonora, Mexico and Baja California. It currently displays a preference for warm, silty tributaries in the northern portion of its range, although it has apparently adapted to the colder, clear waters of reservoirs. It was re-introduced into the lower Colorado River, south of Lake Mojave, Nevada, in 1986 (Ellis 1987). A state-run hatchery in Niland rears young razorback suckers for re-introduction to the Colorado River.

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

Razorback sucker is known from East Highline Canal near Niland (CNDDDB 2002).

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.4 Special-Status Birds

3.1.1.5.4.1 American Peregrine Falcon - (*USFWS: Delisted, Migratory Bird of Nongame Management Concern; CDFG: Endangered, Fully Protected*). This is a falcon inhabiting open country, cliffs, and occasionally cities. It breeds from Alaska south to Baja California, wintering in Baja California, the Gulf of California, and extreme southern California. The nest is a scrape on a high cliff ledge and, as such, this species may forage on the right-of-way, but nest offsite.

Proposed Project

The right-of-way only offers foraging habitat for the American Peregrine Falcon. While no nesting habitat occurs within the alignment, the mountains adjacent along much of the right-of-way may provide nesting sites.

Alternative A

The right-of-way only offers foraging habitat for this species. While no nesting habitat occurs within the alignment, the mountains adjacent to a large portion of the right-of-way may provide nesting sites.

Alternative B

The right-of-way constitutes foraging habitat for this species; no nesting habitat occurs onsite, although both the Palo Verde and Chocolate Mountains offer potential nesting habitat.

Alternative C

The right-of-way only offers foraging habitat for this species. While no nesting habitat occurs within the alignment, the mountains adjacent to a large portion of the right-of-way may provide nesting sites.

3.1.1.5.4.2 Black-tailed Gnatcatcher - (*USFWS: None; BLM: Sensitive; CDFG: None*). This species is a common inhabitant of desert washes. It is a year-round resident throughout the extreme southwestern, arid U.S. into Baja California, and Mexico.

Proposed Project

Thirty-eight individuals of Black-tailed Gnatcatcher were observed on the right-of-way and buffer area. Habitat exists on the entire line, at any of the arboreal drainages.

Alternative B

If the preferred route is on the south side of the railroad right-of-way, it is unlikely that any individuals of this species would occur west of SR-78 except, perhaps, at the mixed mesquite bosque adjacent to East Highline Canal.

Alternative C

Three individuals of Black-tailed Gnatcatcher were observed during the 2000 focused surveys (Greystone 2000).

3.1.1.5.4.3 Bendire's Thrasher - (*USFWS: None; BLM: Sensitive; CDFG: Species of Special Concern*). In southeastern California, Bendire's thrasher is a summer resident of various desert scrubs, especially those with substantial vertical structure, such as riparian woodlands and *Yucca* forests (CNDDDB 2001; National Geographic Society 1999).

Proposed Project

Although riparian woodlands were not identified, Bendire's thrasher may potentially occur within the desert dry wash woodlands throughout this alignment.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Locations on the right-of-way could include areas with desert dry wash woodland.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.4 Brown-crested Flycatcher - (*USFWS: None; CDFG: Species of Special Concern*). This species is a fairly common summer resident (May to July) in desert riparian habitat along the Colorado River. This species may nest very locally at other desert oases and riparian habitats northwest to Mojave River near Victorville, San Bernardino County. Vagrants have been recorded west to the South Fork Kern River near Weldon in Kern County, north to Furnace Creek Ranch, Death Valley, Inyo County, and on the Farallon Islands (Garrett and Dunn 1981).

This species is most numerous in riparian groves of cottonwood, mesquite, willow, which afford suitable nest sites, but often forages in adjacent desert scrub or plantings of tamarisk (Garrett and Dunn 1981). Generally requires woodpecker-excavated cavities for nesting; hence, secondarily dependent on snags, trees with rotten heart-wood, utility poles, fence posts in which ladder-backed and Gila woodpeckers, and other primary excavators, dig nesting cavities.

Proposed Project

None were observed during the 2002 surveys; however, habitat for this species exists primarily in desert dry washes which occur throughout the entire right-of-way.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

The potential for occurrence would be similar to the Proposed Project.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.5 Burrowing Owl - (*USFWS: Species of Concern; BLM: Sensitive; CDFG: Species of Special Concern*). This is an owl of open grasslands, prairies, deserts, and farms; it is also common on golf courses, road cuts and ruderal sites in arid habitats. It breeds from southern Canada south throughout much of the U.S. west of the Mississippi and Mexico, typically wintering in warmer areas. Nesting occurs primarily in burrows built by other species, including ground squirrels, kit fox, badgers, and desert tortoise.

Proposed Project

A single burrowing owl was observed, although habitat for this species exists on the entire right-of-way. In addition, during Year 2000 surveys, one probable burrow of this species was observed (Greystone 2000).

Alternative A

Habitat for this species exists on the entire right-of-way.

Alternative B

No burrowing owls were observed during the 2000 or 2002 surveys. Habitat for this species exists on the entire right-of-way.

Alternative C

Habitat for this species exists on the entire right-of-way.

3.1.1.5.4.6 California Horned Lark - (*USFWS: None; CDFG: Species of Special Concern*). This species is a common inhabitant of open habitats, including desert scrub and grassland. It is a resident over much of the U.S., breeding throughout North America (National Geographic Society 1999). Prey items include seeds and insects.

Proposed Project

None were observed during the 2002 surveys; however, habitat for this species exists on the entire right-of-way.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

The potential for occurrence would be similar to the Proposed Project.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.7 Crissal Thrasher - (*USFWS: None; CDFG: Species of Special Concern*). This species was once a fairly common permanent resident in mesquite brushland and densely vegetated washes in the Imperial and Coachella Valleys and along the entire length of the Colorado River Valley in California (Grinnell and Miller 1944). Today the Imperial and Coachella Valley populations have been reduced dramatically by removal of mesquite brushland and conversion of desert to agricultural fields. Colorado River populations have also declined but are still high in some areas as removal of mesquite brushland and replacement of mesquite by introduced tamarisk is responsible. There are also small populations scattered elsewhere in the Colorado and Mojave Desert west to Anza-Borrego State Park and Morongo Valley and north to Shoshone in Inyo County.

Proposed Project

No individuals were observed during the focused surveys; however, habitat exists within any of the arboreal drainages.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

If the preferred route is on the south side of the railroad right-of-way, it is unlikely that any individuals of this species would occur west of SR-78 except, perhaps, at the mixed mesquite bosque adjacent to East Highline Canal.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.8 Elf Owl - (*USFWS: None; CDFG: Endangered*). The elf owl is migratory and only spends the breeding season in California. It probably arrives in March and leaves in

October. Almost 70 percent of the records of elf owls in California come from April and May. This is the height of the breeding season, and during this period, males are very territorial.

The elf owl is limited to the cottonwood-willow and mesquite riparian zone along the lower Colorado River. Successful nests require larger trees with thick walls next to the cavity to provide the needed insulation from high daytime temperatures.

It is believed that the elf owl in California may be possibly extirpated (CDFG 2000).

Proposed Project

The potential for occurrence along this alignment is highly unlikely.

Alternative A

The potential for occurrence along this alternative is highly unlikely.

Alternative B

The potential for occurrence along this alternative is highly unlikely.

Alternative C

The potential for occurrence along this alternative is highly unlikely.

3.1.1.5.4.9 Ferruginous Hawk - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). This species is a winter resident in California and the southwest into Mexico. It forages over open habitat, preying on rodents, rabbits, and other small prey.

Proposed Project

The entire right-of-way constitutes winter foraging habitat for this species.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

The entire right-of-way constitutes winter foraging habitat for this species.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.10 Gila Woodpecker - (*USFWS: None; CDFG: Endangered*). The Gila woodpecker is an 8 to 10 inch, "zebra-backed" woodpecker (Remsen 1978) inhabiting desert scrub and washes, saguaros, river groves, and woodlands, including residential shade trees. Its range extends from the Imperial Valley, and the southern tip of Nevada to southern and central Arizona, extreme southwestern New Mexico, all of Baja California, and much of western and central Mexico.

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

Either a Gila woodpecker or gilded northern flicker was seen on the Western right-of-way approximately 3 miles southeast of the SR-78 crossing (Karl 1994a). This species could potentially occur in any of the woodland washes, from east of the Mule Mountains to approximately Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.4.11 Gilded Northern Flicker - (*USFWS: None; CDFG: Endangered*). The gilded northern flicker is a 10 to 12 inch, woodpecker with a brown barred back, spotted underparts, with black crescent bib (Remsen 1978). It is a permanent resident of cottonwood-willow forests along the Colorado River, desert washes, saguaros, and woodlands. Unlike the Gila woodpecker, the gilded northern flicker does not make use of tall shade trees in residential habitats. The range of the flicker extends from southeastern California (Colorado River, Cima Dome) to southern Arizona, Baja California, Sonora, and northern Sinaloa. Today, it is known only at scattered locations along the California side of the Colorado River between Needles and Yuma.

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

Either a Gila woodpecker or gilded northern flicker was seen on the Western right-of-way, approximately 3 miles southeast of the SR-78 crossing (Karl 1994a). This species could occur in any of the woodland washes, from east of the Mule Mountains to approximately Tortuga.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.4.12 Golden Eagle - (*USFWS: None; CDFG: Species of Special Concern, Fully Protected*). This species is a common resident of foothill, mountainous, and open country, foraging over deserts, farmland, prairies for small mammals, snakes, and birds. It is a year-round resident throughout most of western North America.

Proposed Project

The entire right-of-way constitutes foraging habitat for the Golden Eagle. While no nesting habitat occurs onsite, the mountains adjacent to a large portion of the right-of-way may provide nesting sites.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

The entire right-of-way constitutes foraging habitat for this species; no nesting habitat occurs onsite, although both the Palo Verde and Chocolate Mountains offer potential nesting habitat.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.13 LeConte's Thrasher - (*USFWS: None; BLM: Sensitive; CDFG: Species of Special Concern*). LeConte's thrasher is a commonly-observed species of the Mojave and Colorado deserts. The species ranges from southern California, in the western and southern San Joaquin Valley, to southwestern Utah, western and central Arizona, Baja California and northwestern Mexico. While similar in appearance to crissal thrasher, LeConte's thrasher occupies more open habitats.

Proposed Project

One individual was seen east of Wiley Well during the habitat reconnaissance surveys. Habitat for this species exists on the entire right-of-way, especially those areas dominated by blue palo verde and/or Mojave yucca.

Alternative A

The potential for occurrence would be similar to the Proposed Project.

Alternative B

Habitat for LeConte's Thrasher exists on the entire right-of-way, especially in habitats where Mojave yucca is common.

Alternative C

The potential for occurrence would be similar to the Proposed Project.

3.1.1.5.4.14 Loggerhead Shrike - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). Loggerhead shrike is a common resident of the southwestern deserts and occupies many habitats, including both native habitats and agricultural parcels. The species range includes most of the U.S. (National Geographic Society 1999).

Proposed Project

Four individuals were observed, despite the generally high-profile presence of this species in the southern desert. Habitat for this common desert bird exists on the entire route.

Alternative A

Habitat for this common desert bird exists on the entire route.

Alternative B

Habitat for this common desert bird exists on the entire route.

Alternative C

Five individuals of this species were observed during the 2000 surveys (Greystone 2000). Habitat for this common desert bird exists on the entire route.

3.1.1.5.4.15 Merlin - (*USFWS: None; CDFG: Species of Special Concern*). This species is a winter resident in California and the far-southern U.S., into Mexico. It inhabits a variety of habitats, nesting in wooded sites in trees, cliffs, or on the ground. Prey includes birds, rodents and large insects.

Proposed Project

The entire project site constitutes winter foraging habitat for this species.

Alternative A

The entire project site constitutes winter foraging habitat for this species.

Alternative B

The entire project site constitutes winter foraging habitat for this species.

Alternative C

The entire project site constitutes winter foraging habitat for this species.

3.1.1.5.4.16 Mountain Plover - (*USFWS: Proposed Threatened; CDFG: Species of Special Concern*). This species historically occurred in the west side of the Central Valley from the vicinity of Woodland in Yolo County to Wheeler Ridge in Kern County; Carrizo Plain in San Luis Obispo County; and, locally, in broad agricultural valleys and coastal plains in Southern California, including Imperial Valley (Jurek 1973). Wintering mountain plovers were once abundant on the coastal plains and interior valleys from Ventura County to San Diego County, including western Riverside County. Remnant winter concentrations are known to occur in the vicinity of Woodland; Pacheco Pass in Merced County; western San Joaquin Valley in Kern County; Carrizo Plain; and the Imperial and Antelope Valleys in Imperial County (Jurek 1973).

Wintering plovers typically depart from northern states from early August to late October and arrive in California in September through November (Leachman and Osmundson 1990). Mountain plovers are highly gregarious during breeding and wintering seasons as foraging flocks range widely in search of large insects (especially grasshoppers) and others in shortgrass plains, agriculture fields, and open sagebrush habitats invertebrates (Graul 1975).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

Wintering forage habitat for this species occurs in those portions of the right-of-way that traverse agricultural fields in proximity to the Salton Sea.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.4.17 Prairie Falcon - (*USFWS: None; CDFG: Species of Special Concern*). This species is a year-round resident of the western U.S. It inhabits open country, including deserts and prairies, occasionally hunting in woodlands. Prey includes birds, lizards, large insects and rodents. Nesting occurs in cliffs and talus slopes.

Proposed Project

One prairie falcon was observed, although the entire right-of-way constitutes winter foraging habitat for this species. The mountains adjacent to a large portion of the right-of-way may provide nesting sites.

Alternative A

The entire right-of-way constitutes winter foraging habitat for this species.

Alternative B

The entire right-of-way constitutes winter foraging habitat for this species.

Alternative C

The entire right-of-way constitutes winter foraging habitat for this species.

3.1.1.5.4.18 Southwestern Willow Flycatcher - (*USFWS: Endangered; CDFG: Endangered*). This species historically breed in lowland riparian habitat throughout southern California, but has been extirpated from most regions. It still breeds in isolated locations, including riparian woodlands in Kern, Santa Barbara, and San Diego Counties, and in locations along the Colorado River where native riparian is still intact. Breeding habitat consists of dense stands of intermediate-size shrubs or trees, such as willow, Coyote bush, ash, boxelder, and alder, with an overstory of larger trees, such as cottonwood. Exotic species, such as Russian olive and tamarisk may be present (USFWS 1995). The flycatcher may potentially occupy riparian woodlands adjacent to streams and may be found in the dense, layered mesquite/tamarisk/quailbush/arrowweed woodland-scrub adjacent to the East Highline Canal. The CNDDB (2002) has no records for these species in this area, although this may simply be a result of lack of surveys. Willow flycatchers of an undetermined subspecies have been reported at the Salton Sea National Wildlife Refuge and are considered an uncommon spring migrant and common fall migrant (USFWS 1997). In addition, single southwestern willow flycatchers were observed along the Holtville Main, Trifolium 2, and Nettle Drains (Hurlbert et al. 1997).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

This species may potentially occur within the East Highline Canal near Niland.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.4.19 Sonoran Yellow Warbler - (*USFWS: None; CDFG: Species of Special Concern*). The Sonoran Yellow historically occurred as a common summer resident confined almost entirely to the lower Sonoran river valleys, including the Colorado River valley from Ft. Mohave to Yuma (Swarth 1914). The species began to decline dramatically after 1955 and was considered extirpated from the valley by 1960 (Monson and Phillips 1981; Serena 1981).

Proposed Project

The potential for occurrence along this alternative is highly unlikely.

Alternative A

The potential for occurrence along this alternative is highly unlikely.

Alternative B

The potential for occurrence along this alternative is highly unlikely.

Alternative C

The potential for occurrence along this alternative is highly unlikely.

3.1.1.5.4.20 Vermilion Flycatcher - (*USFWS: None; CDFG: Species of Special Concern*). This species is a rare and local, year-long resident along the Colorado River, especially in the vicinity of Blythe, California (Riverside County). A few pairs still breed sporadically in desert oases west and north to Morongo Valley and the Mojave Narrows in San Bernardino County. Nesting pairs inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures and other open, mesic areas. They are rare fall and winter visitor throughout the lowlands of southern California from Santa Barbara and Inyo Counties. Formerly much more common and widespread, but has disappeared entirely from Imperial and Coachella Valleys, and numbers have declined drastically along Colorado River as well, primarily because of loss of habitat (Garrett and Dunn 1981).

Proposed Project

The potential for occurrence along this alignment is highly unlikely.

Alternative A

The potential for occurrence along this alternative is highly unlikely.

Alternative B

The potential for occurrence along this alternative is highly unlikely.

Alternative C

The potential for occurrence along this alternative is highly unlikely.

3.1.1.5.5 Special-Status Reptiles

3.1.1.5.5.1 Chuckwalla - (*USFWS: Species of Concern; CDFG: None*). The range of this lizard includes the southern Mojave Desert to Utah, Arizona, and Mexico (Stebbins 1985). The chuckwalla is a large (to 17 inches long), herbivorous lizard with loose folds of skin on neck and sides. Chuckwallas are relatively common in areas of rock outcroppings and large boulders and are often seen basking on rocks in the sun. When disturbed, they retreat into rock crevices and distend their bodies, by gulping air, in order to tightly wedge themselves in place. Five to sixteen young are born from clutches laid in June (possibly to August).

Proposed Project

Chuckwalla scat were commonly observed in boulder outcrops along the right-of-way. These occurred along the north edge of both the Chuckwalla and Orocopia Mountains and immediately north of the right-of-way intersection with I-10.

Alternative A

The potential for occurrence along this alternative is highly unlikely.

Alternative B

Chuckwallas may inhabit areas of rock outcroppings and large boulders in the Palo Verde Mountains, and they may also be found in patchy rock outcrops associated with the Chocolate Mountains.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.5.2 Coachella Valley Fringe-toed Lizard (*USFWS: Threatened; CDFG: Endangered, Protected*). This iguanid lizard is restricted to aeolian sand habitats in the Coachella Valley (Stebbins 1985). General types of blow-sand deposits to which the fringe-toed lizards are restricted include sandy plains, sand hummocks, and dune systems (USFWS 2002a). Additionally, 19 BLM parcels encompass 2,544 acres of occupiable fringe-toed lizard habitat (USFWS 2002a). Its highly localized range is now fragmented and reduced as a result of habitat loss and degradation due to urbanization, agriculture, and OHV use.

Proposed Project

During the 2002 surveys, one individual was observed just west of the Coachella Valley Wildlife Refuge. While many of the sites recorded by CNDDDB (2002) are degraded or disturbed, lizards could be present along the Proposed Project suitable habitat within all portions of the Coachella Valley. In addition, a 1975 CNDDDB record for this species is in the area intersected by the Proposed Project right-of-way at Dillon Road.

Alternative A

No potential for occurrence within this alternative.

Alternative B

No potential for occurrence within this alternative.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.5.3 Colorado Desert Fringe-toed Lizard - (*USFWS: Species of Concern; BLM: Sensitive; CDFG: None*). This iguanid lizard occupies aeolian sand habitats in extreme southeastern California (Imperial County) and northeastern Baja California (Stebbins 1985). Several morphological adaptations enable it to occupy loose sand, including fringed rear toes, a countersunk jaw and mild dorso-ventral flattening. This species was found in small dunes immediately southeast of Ford Dry Lake (Greystone 2000).

Proposed Project

On the Proposed Project right-of-way, Colorado Desert fringe-toed lizard was commonly observed in the loose sand from Palo Verde Mesa west to approximately 2 miles west of Wiley Well Road. This is the only habitat for the species along the Proposed Project.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

On the Alternative B right-of-way, Colorado Desert Fringe-toed Lizard is most likely to occupy areas within the vicinity of Mammoth Wash. It is possible, but unlikely, that habitation could extend to the Coachella Canal on the south side of the railroad and, if the right-of-way is on the north side of the railroad, could occur between the Coachella Canal and Mammoth Wash.

Alternative C

During the 2002 surveys, eight individuals were observed, and during the 2000 surveys, two individuals of this species were found in the small dunes immediately southeast of Ford Dry Lake.

3.1.1.5.5.4 Desert Tortoise - (*USFWS: Threatened; CDFG: Threatened; Protected*). The desert tortoise is one of four species of tortoises belonging to the genus *Gopherus*, all of which inhabit North America. Only the desert tortoise inhabits the southwest, with a current range extending from southwestern Utah, west to the Sierra Nevada Range in California and south into Mexico (Stebbins 1985). Common vegetation associations in the Sonoran Desert of western Arizona include creosote bush scrub and relatively lush desert habitats, particularly palo verde-mixed cacti associations (Vaughan 1983). Because of the burrowing nature of tortoises, soil and substrate types are critical habitat components (Karl 1983; Weinstein 1989). Tortoises are opportunistic in their burrowing habits; burrowing into hillsides, utilizing rock caverns, and altering the burrows of other burrowing species, such as kit and gray foxes, rodents, and hares. Desert tortoises are herbivorous, although they have been observed eating soil and, occasionally, the bones and scat of both carnivores and herbivores. Forage typically consists of annual plants, perennial grasses and succulent perennials.

Proposed Project

Desert tortoise sign was observed between the northeast end of the Chuckwalla Mountains to approximately 2 miles east of Dillon Road (See Appendix E for detailed observations). The greatest amounts of sign were observed from Alligator Rock to the Orocopia Mountains. The number of sign and quality of the habitat suggest that tortoise densities are moderate to moderately high in this right-of-way segment (i.e., 75 to >100 adults per square mile). Low densities are suggested for the remaining portions of the right-of-way where there was observed sign. It is likely that few, if any, tortoises inhabit the Coachella Valley or Palo Verde Mesa, although tortoises and/or their burrows have been observed south of the Devers Substation (Karl 2000; Matt McDonald, pers. Comm. 2002).

Alternative A

The potential for desert tortoise would be similar to that described above for the Proposed Project. The primary alteration of this alternative relates to Option A-2, which would shift the alignment to the north around the border of Alligator Rock ACEC and then south to parallel the north side of the Devers-Palo Verde Transmission Line. Since the alternative will avoid Alligator Rock, and the increased linear distance from the I-10 corridor, desert tortoise densities may increase within this option alternative.

Alternative B

During 1994 surveys, 78 definite tortoises were found on the right-of-way and 106 signs were found in buffer transects (Karl 1994a). Signs were found in the sections from approximately 3 miles north of the Palo Verde Mountains, south to several miles past the SR-78 crossing. The greatest concentrations of signs were found between the southern end of the Palo Verde Mountains and SR-78. NBP surveys in 2001 found desert tortoise sign along SR-78 from approximately the north end of the Palo Verde Mountains to Ogilby Road, and south along Ogilby Road; greatest sign counts were along the Ogilby Road segment (Division of State Lands 2002). In 1992 and 1994, tortoise densities were estimated from clearance and other intensive surveys as approximately 15 tortoises >140mm in length per square mile in Township 13 S

Range 19 E Sections 7, 16, 18, 19 and areas immediately west (Karl 1992, 1994a). Potential tortoise habitat continues along Alternative B west, approximately to the Coachella Canal on the north side of the railroad (Greystone 2000). South of the railroad tracks the habitat is generally poor to fair because of the loose sand and the insular aspect of the habitat remaining on that side of the railroad, because of segregation by the railroad tracks.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.5.4 Desert Rosy Boa - (*USFWS: Species of Concern; CDFG: None*). Desert rosy boa inhabits primarily rocky sites in the southern Mojave and the Sonoran Deserts of California and Arizona (Stebbins 1985). While permanent water is not a requirement, this species can often be found near permanent or ephemeral streams. It is primarily a nocturnal species.

Proposed Project

On the Proposed Project right-of-way, desert rosy boa would be most likely to occur along the northern edge of the Chuckwalla and Orocopia Mountains, and on the southern edge of the Cottonwood Mountains.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Desert Rosy Boa would be most likely to be found in the Palo Verde Mountains and in rockier areas east of the Chocolate Mountains.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.5.5 Flat-tailed Horned Lizard - (*USFWS: None; CDFG: Species of Special Concern, Protected*). Flat-tailed horned lizard is found in adjoining areas of extreme southeastern California, southwestern Arizona, northern Sonora and northern Baja California (Stebbins 1985). Typical habitats include creosote bush scrub on sandy flats. While soft- to loose-sandy, often windblown, soils appear to be preferred, the lizard has also been found on more gravelly substrates (Foreman 1997).

West of the Coachella Canal and north of the East Highline Canal, Alternative B is in the range of the flat-tailed horned lizard, although acceptable habitat is likely only from Mile 2 north to the Coachella Canal. This area is intermittently loose- to soft-sandy, although there is abundant disturbance from agriculture and off-road-vehicles.

Proposed Project

Flat-tailed horned lizard may be found in the Coachella Valley, in loose- to soft-sandy sites. Suitable habitat may also occur in more sites that have more gravelly substrates.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Potential habitat could include the segment along the railroad right-of-way between approximately the Coachella Canal and Mammoth Wash.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.5.6 Red Diamond Rattlesnake - (*USFWS: None; CDFG: Species of Special Concern*). The known range of the red diamond rattlesnake extends from near Pioneertown and Morongo Valley (San Bernardino County) southward on both sides (coastal and desert slopes) of the Peninsular Ranges (including the Santa Ana Mountains) to Loreto, Baja California, Mexico (Stebbins 1985). This snake inhabits desert scrub, open chaparral, grassland, woodland, mesquite and cactus environments from sea level to 3,000 feet, typically along rocky alluvial fans and/or canyons. It is found on both the coastal and desert sides of the mountains and occurs out onto the desert floor.

Proposed Project

The snake would be most likely to occur along the northern edge of the Chuckwalla and Orocochia Mountains, and on the southern edge of the Cottonwood Mountains.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

The snake would be most likely to be found in the Palo Verde Mountains and in rockier areas east of the Chocolate Mountains.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.6 Special-Status Amphibians

3.1.1.5.6.1 Couch's Spadefoot - (*USFWS: None; CDFG: Species of Special Concern*). This species is found from extreme southeastern California to southwestern Oklahoma, and south across Texas into central Mexico and Baja California. Habitat includes shortgrass plains, mesquite savannah, creosote bush desert, thornforest, tropical deciduous forest and other areas of low rainfall (Stebbins 1985). These individuals remain in subterranean burrows for most of the year, emerging to breed in temporary pools after or during periods of rainfall, both winter rains and summer monsoons. Thus, breeding may occur from April or May to September. Breeding can also occur in slow streams, reservoirs, or ditches (Jennings and Hayes 1994).

Proposed Project

Couch's Spadefoot has the potential to occur only if precipitation events produce ephemeral pools along the alignment right-of-way.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Potential for occurrence would be similar to the Proposed Project.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.7 Special-Status Insects

3.1.1.5.7.1 Andrew's Dune Scareb Beetle - (*USFWS: Species of Concern; CDFG: None*). This beetle is endemic to the creosote bush scrub habitat of the Algodones Dunes in Imperial County. It inhabits both the surface and subsurface, utilizing the wet sand interface as protection from heat (CNDDDB 2001).

Proposed Project

No potential for occurrence within the Proposed Project alignment.

Alternative A

No potential for occurrence within this alternative.

Alternative B

This species has the potential to occur within the sand dunes associated with the Imperial Dunes Recreation Area.

Alternative C

No potential for occurrence within this alternative.

3.1.1.5.8 Special-Status Mammals

3.1.1.5.8.1 Nelson's Bighorn Sheep - (*USFWS: None; BLM: Sensitive; CDFG: FPS*). Nelson's or desert bighorn live most of the year close to the desert floor in canyons and rocky areas (Ingles 1965). In summer, they move to better forage sites and cooler conditions in the mountains. Migration routes can occur across valleys, between mountain ranges.

Proposed Project

Nelson's bighorn may occupy the more mountainous sites in the Chuckwalla and Orocopia Mountains. Unless a migration route exists between these ranges and the Cottonwood and Eagle Mountains to the north, beyond I-10, no individuals should be found on the right-of-way.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Near the Alternative B right-of-way, CNDDDB records have locations of Nelson's bighorn in the Chocolate Mountains, west and north of the right-of-way. They may also occur in the Palo Verde Mountains.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.8.2 Coachella Valley Round-tailed Ground Squirrel - (*USFWS: Candidate; CDFG: Species of Special Concern*). This species occupies Mojave Desert Scrub, with various plant community compositions, in the Coachella Valley. Round-tailed ground squirrels tend to prefer sandier soils, although substrates may be somewhat gravelly. The only CNDDDB records near the right-of-way are from 1938 and cite Mecca and Coachella (CNDDDB 2001).

Proposed Project

The most suitable habitat on the Proposed Project right-of-way would occur in those areas containing sandier soils, although this ground squirrel may occupy other habitat within the Coachella Valley. The most likely current location on the right-of-way includes the sandy area near Dillon Road. Although agricultural conversion of native habitat may have eliminated any of the populations near Mecca, this species may extend southeast from Dillon Road to the low, sandy and sink areas near the Imperial County line.

Alternative A

No potential for occurrence within this alternative.

Alternative B

No potential for occurrence within this alternative.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.8.3 Palm Springs Pocket Mouse - (*USFWS: None; CDFG: Species of Special Concern*). The Palm Springs pocket mouse occurs in the lower Sonoran life zone from the San Geronio Pass area east to the Little San Bernardino Mountains and south along the eastern edge of the Peninsular Range to Borrego Valley and the east side of San Felipe Narrows (Hall 1981). The southern boundary of the range extends into Imperial and San Diego Counties. The species occurs on three existing preserves: the Coachella Valley Preserve, the Whitewater River Floodplain Preserve, and the Willow Hole-Edom Hill Preserve/ACEC.

Generally, their habitat is described as having level to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or sandy soils. Pocket mice are nocturnal, solitary and generally exhibit strong intraspecific aggression. They spend the day in burrows which are constructed and comprised of a system of tunnels and resting areas, with the entrance plugged. This species generally breeds from January to August, with a peak of activity from March to May (Dodd 1996). The little pocket mice hibernate in winter and are active above ground in spring, summer, and fall (Bartholomew and Cade 1957).

Proposed Project

The species is known to occur in the Coachella Valley Preserve; therefore, the western extent of the route from Dillon Road to the Devers Substation would most likely be occupied.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Potential for occurrence would be similar to the Proposed Project.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.8.4 Yuma Puma - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). The puma is a large, uniformly colored, tawny to grayish cat with a brown-tipped tail. It is chiefly nocturnal with the primary forage consisting of deer, hares, and rodents. Yuma pumas could occur within the project area, especially in the Mule and Chocolate mountains.

Proposed Project

Yuma pumas could occur near the northern edge of the Chuckwalla and Orocopia Mountains and on the southern edge of the Cottonwood Mountains.

Alternative A

Potential for occurrence would be similar to the Proposed Project.

Alternative B

Yuma pumas could occur along the entire length of the right-of-way especially in the mountainous areas.

Alternative C

Potential for occurrence would be similar to the Proposed Project.

3.1.1.5.9 Special-Status Bats

The project area lies within the range of eight special-status bat species: California leaf-nosed bat, Western small-footed myotis, greater western mastiff bat, Southern yellow bat, Townsend's big-eared bat, pallid bat, pocketed free-tailed bat, and spotted bat. Potential roosting habitat for special-status bats generally occurs in natural rock features such as cliffs and large rock outcrops associated with the Mule Mountains, Chocolate Mountains, McCoy Mountain, Chuckwalla Mountains, Orocopia Mountains, Little San Bernardino Mountains, Cottonwood Mountains, and Indio Hills. It is important to note that bat species do not form large nursery colonies or utilize adits (e.g., spotted bat) or caves for summer roosting. They may roost at any locale, whether it is within a rock crevice or trees, in the larger arboreal washes, and wash systems. Therefore, appropriate roosting habitat may be available for several bat species along the Proposed Project and alternative routes and it is assumed that most species may be present on site during some portion of the year. However, the presence of special-status species along the Proposed Project and alternatives would largely be the result of foraging, as preferred roosting sites would be located off the corridors within the various mountain ranges.

3.1.1.5.9.1 California Leaf-nosed Bat - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). The California leaf-nosed bat is found from Riverside, Imperial, San Diego, and San Bernardino Counties south to the Mexican border. Desert populations have declined, but this species is fairly common in some areas along the Colorado River. Habitats occupied include desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oases. This species feeds on a variety of flying and flightless insects, including orthopterans, sphingid and noctuid moths, beetles, and cicadas. Day roosts usually are in deep mine tunnels or caves, occasionally in buildings or bridges. The roost must provide shelter from heat and aridity.

Night roosts may be in buildings, mines, bridges, rock shelters, or other sites with overhead protection. These bats often are found in large groups. Females form maternity colonies in summer, preferring tunnels and caves. Males form smaller groups which occupy typical day and night roosts. Foraging habitat for this species may occur in riparian areas, and roosting habitat may occur in rocky areas or in man-made structures (CDFG 1990).

Proposed Project and Alternatives A, B, and C

The species is known to occur in one natural cave in the Santa Rosa Mountains (CVAG 2002). This species formerly occurred at Bat Cave Buttes, but this site has been heavily vandalized and no longer has any California leaf-nosed bats (CVAG 2002). The bat may utilize desert dry wash woodlands within the project area, but insufficient information is available at this time.

3.1.1.5.9.2 Cave Myotis - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). The Cave myotis are generally found from extreme southeastern California eastward to western New Mexico and southward to Guatemala. In California, this species is known only from the lowlands of the Colorado River and adjacent desert mountain ranges (Vaughan 1959). Cave myotis are habitual cave dwellers and are highly colonial. During the season of reproduction, in spring and summer, they form large colonies in warm caves and mines and less often in buildings and other structures (Barbour and Davis 1969). In California, they have been found in an old storehouse (Grinnell 1914) and in mine tunnels (Stager 1939; Vaughan 1959). In large portions of their range they are typically associated with Brazilian free-tailed bats (*Tadarida brasiliensis*).

Proposed Project and Alternatives A, B, and C

Vaughan (1959) found that in the vicinity of the Riverside Mountains, cave myotis foraged primarily over the floodplain of the Colorado River. However, this population has incurred significant declines. The bat may utilize desert dry wash woodlands outside of the Colorado River floodplain, but this species is primarily confined to river floodplain.

3.1.1.5.9.3 Greater Western Mastiff Bat - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). This species occurs in many open, semiarid to arid habitats, including palm oases, chaparral, and desert scrub. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings. Nursery roosts are described as tight rock crevices at least 35 inches deep and 2 inches wide, or crevices in buildings. Roosting habitat for this species may be present in man-made structures in the vicinity of the project area (CDFG 1990).

Proposed Project and Alternatives A, B, and C

There are two records for this species within the project area: one is from Cottonwood Spring in Joshua Tree National Park and the other is from Painted Canyon in the Mecca Hills (CVAG 2002).

3.1.1.5.9.4 Townsend's Big-Eared Bat - (*USFWS: None; CDFG: Species of Special Concern*). This species is found in a variety of locations that range from coniferous forests and woodlands, deciduous riparian woodland to semidesert and montane shrublands. During the winter months, this species hibernates in mines or caves either individually or in groups composed of several hundred bats. In the summer, these bats roost in a wide variety of locations, including limestone caves and human-made structures. These bats are insectivorous, primarily feeding on small moths. Breeding usually begins within the first three weeks of October. No known roost sites for this species are present in the vicinity of the Proposed Project, but caves sufficiently large enough for this species may be present in the Indio Hills.

Proposed Project and Alternatives A, B, and C

There is one record of this species in the Project area in Whitewater Canyon from 1915; however, it is unknown if the locality where the species was found in Whitewater Canyon is still viable (CVAG 2002).

3.1.1.5.9.5 Pallid Bat - (*USFWS: None; CDFG Species of Special Concern*). The pallid bat is a locally common species of low elevations in California. It occurs throughout California except for portions of the high Sierra Nevadas. This species occupies a wide variety of habitats, including grasslands, shrublands, and woodlands, but is most common in open, dry habitats with rocky areas for roosting. The pallid bat is a year-long resident in most of its range. This species forages on a wide variety of insects and arachnids, including beetles, orthopterans, homopterans, moths, spiders, scorpions, solpugids, and Jerusalem crickets. Day roosts are most commonly found in caves, crevices, mines, and occasionally in hollow trees and buildings. Roosts must protect bats from high temperatures. Night roosts may be in more open sites such as porches and open buildings. Few hibernation sites are known, but this species probably uses rock crevices. Maternity colonies form in early April, and may have from 12 to 100 individuals.

Proposed Project and Alternatives A, B, and C

Pallid bats are known to occur in the vicinity of Bat Cave Buttes and Painted Canyon; however, the population at Bat Cave Buttes has been severely impacted by recreational use of the caves (CVAG 2002).

3.1.1.5.9.6 Southern Yellow Bat - (*USFWS: None; CDFG: Species of Special Concern*). The southern yellow bat occurs in extreme southeastern California, the southwest to Texas and the northwestern portion of Mexico, including Baja (Burt and Grossenheider 1976). Its range appears to be expanding due to the use of palm trees for landscaping. This species roosts in trees, primarily palm trees. It appears to prefer the dead fronds of palm trees. It feeds on flying insects such as beetles and true bugs, and forages over water and among trees. This species is thought to be non-colonial, although aggregations of up to 15 have been found in the same roost site. Yellow bats probably do not hibernate; activity has been observed year-round in both the southern and northern portions of the range. This species probably forms small maternity groups in trees and palms. Pregnancy occurs from April to June, with lactation occurring in June and July. Females carry from one to four embryos.

Proposed Project and Alternatives A, B, and C

While very few surveys have been conducted for the Southern Yellow Bat in the project area, it is known to occur only at the Coachella Valley Preserve, Dos Palmas Preserve/ACEC, and on the Applegarth Ranch in the Thermal area, the yellow bat is believed to occur throughout the Coachella Valley in the palm oases and in residential areas with untrimmed palm trees (CVAG 2002).

3.1.1.5.9.7 Pocketed Free-Tailed Bat - (*USFWS: None; CDFG: Species of Special Concern*). The pocketed free-tailed bat is found in Riverside, San Diego, and Imperial Counties. This species is rare in California, but is more common in Mexico. Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases. This bat feeds on flying insects detected by echolocation high over ponds, streams, or arid desert habitat. Large moths are the principal food, but a wide

variety of insects can be taken. The species prefers rock crevices in cliffs as roosting sites. Reproduction occurs in rock crevices, caverns, or buildings (CDFG 1990).

Proposed Project and Alternatives A, B, and C

This bat is known to occur in Painted Canyon in the Mecca Hills, and it is not known whether these are roosting colonies or not, as there is little information available on this species (CVAG 2002).

3.1.1.5.9.8 Spotted Bat - (*USFWS: Species of Concern; CDFG: Species of Special Concern*). The spotted bat would mostly likely occur in foothills, mountains and desert regions of Southern California. Habitats occupied range from arid deserts and grasslands through mixed conifer forests. Moths are the spotted bat's principal food; however, there is some evidence of beetle consumption. This bat apparently prefers to roost in rock crevices on cliffs; however, it is occasionally found in caves and buildings. Roosting habitat for this species may occur in the Indio Hills (CDFG 1990).

Proposed Project and Alternatives A, B, and C

This bat could occur along the entire length of the right-of-way, especially along the northern edge of the Chuckwalla and Orocopia Mountains, the southern edge of the Cottonwood Mountains, along the Little San Bernardino Mountains, and Indio Hills.

3.1.1.5.9.9 Western Small-Footed Myotis Bat - (*USFWS: Species of Concern; CDFG: None*). The small-footed myotis is a common bat of arid uplands in California. It also occurs in desert habitats in Riverside and San Bernardino Counties. This species feeds on a variety of small flying insects, including moths, flies, beetles, and bugs. The small-footed myotis often is seen foraging among trees and over water. This bat seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used, and have been found in buildings and caves. Groups of 50 or more may inhabit a hibernation site. Maternity colonies of females and young are found in buildings, caves, and mines. Such colonies usually contain 12 to 20 individuals.

Proposed Project and Alternatives A, B, and C

A literature search has indicated no known occurrences in the project area (CVAG 2002). If this species occurs in the project area, it would be expected only in the forested zones of the project area, as these localities would be at the eastern edge of its range (CVAG 2002).

3.1.1.5.10 2002 Desert Tortoise, Flat-tailed Horned Lizard, and Fringe-toed Lizard Focused Surveys

3.1.1.5.10.1 Survey Methods - To determine the presence of special-status species within the project area, surveys of the Proposed Project and alternative transmission line alignments were conducted. Surveys were conducted in two phases: a driving, reconnaissance survey to map habitats and identify possible habitats for special-status species was completed in August 2001 (Greystone 2000); and walking transects were completed in June 2002. Walking transect surveys consisted of USFWS "protocol" desert tortoise transects, in which 12 parallel transects were walked for each linear mile of right-of-way. Transects were approximately 35 feet wide, and were walked along the northern edge of the estimated right-of-way, and at 100, 300, 600, 1,200, and 2,400 feet from the northern edge of the right-of-way. This transect configuration

was repeated on the south side of the right-of-way. Outer transects were eliminated in a few places, and only where there was no tortoise habitat (e.g., I-10 or steep terrain).

3.1.1.5.10.2 Proposed Project Transmission Line Alignment - Protocol desert tortoise transects were walked (from Mile 17 through 88) per agreement with USFWS (Chris Otahol, pers. comm. 2002) and the best tortoise habitat present in the Coachella Valley (Mile 110 and Miles 114-117). Surveys were also walked that focused on flat-tailed horned lizards (*Phrynosoma mcallii*) and fringe-toed lizards. Survey protocols for lizard transects followed those outlined by *The Working Group of Flat-tailed Horned Lizard Interagency Coordinating Committee* (Foreman 1997). They entailed walking one set of two parallel transects, a 4-foot-wide scat transect and a 50-foot-wide lizard transect, on each side of the estimated right-of-way (e.g., four transects per linear mile of right-of-way). Per protocol, lizard transects were only walked during ground temperatures between 95° and 122 °F. Lizard transects were completed wherever there was an aeolian sand component (necessary for all of these species from Mileposts 5 through 16 on Palo Verde Mesa, and in the Coachella Valley in Miles 88 through 90, 98, 101 through 105, and 111 through 113).

While the surveys concentrated on desert tortoises and flat-tailed and fringe-toed lizards, evidence of special-status species, especially wildlife and perennial plant species, was sought on all transects. All signs (e.g., individuals, dens, burrows, scat, tracks, pellets, skeletal remains) of target species were recorded and their characteristics (e.g., size, recency, gender associations) noted. An inventory was also kept of all plant and animal species observed or detected during the surveys and all plant communities will be described in detail and mapped after the final route is selected.

Survey dates coincided with high accumulations of desert tortoise signs (e.g., scat and burrows) and with lizard activity. Unfortunately, there had been very little germination of annual plant species or growth of deciduous perennials in Spring 2002 due to the negligible winter rainfall, so surveying for special-status plant species was compromised in 2002.

3.1.1.5.10.3 Alternative A Transmission Line Alignment - The transects walked for the Proposed Project were also applicable to Alternative A because of the proximity or overlap of the two alternatives. Option A-2 would shift the alignment to the south to parallel the north side of the Devers-Palo Verde Transmission Line where it is envisioned that more species sign would be observed due to the linear distance from the I-10 corridor.

3.1.1.5.10.4 Alternative B Transmission Line Alignment - This alternative route was added after the appropriate survey season for plants had passed, and no surveys were conducted. However, surveys have been conducted along portions of the route for other projects. These include a USFWS-protocol survey (e.g., 100 percent right-of-way plus buffer transects at 100, 300, 600, 1,200, and 2,400 feet) for special-status plants and animals along the Western transmission line from Blythe south past SR-78 to Yuma (Karl 1994a). A second intensive survey for special-status species was completed along SR-78 from Blythe to Ogilby Road, and then south for the NBP (Division of State Lands 2002). Three other surveys, including one desert tortoise clearance survey, one presence/absence survey over several square miles, and one reconnaissance survey, were completed for the Goldfields Mining Company and proposed Mesquite Regional Landfill adjacent to SR-78 near Glamis (Karl 1992, 1993, 1994b). A driving

reconnaissance survey to map habitats and identify possible habitats for special-status species was completed in August 2001 (Greystone 2000).

3.1.1.5.10.5 Alternative C Transmission Line Alignment - The June 2002 transects walked for the Proposed Project were also applicable to Alternative C because of the proximity or overlap of the two alternatives. The right-of-way used for these surveys was centered on the proposed Project right-of-way because it was anticipated that more species sign would be observed further from the freeway. Because part of Alternative C was 2.5 miles from, and sandier than Alternative A, surveys were also walked in June 2002 in that right-of-way segment focused on flat-tailed horned lizards and fringe-toed lizards.

3.1.2 Regulatory Setting

The following sections discuss federal, state and local laws and regulations associated with the protection or treatment of biological resources that may be applicable to the project.

3.1.2.1 Federal Endangered Species Act (FESA)

The FESA extends legal protection to plants and animals listed as endangered or threatened by the USFWS, and authorizes the USFWS to review proposed federal actions to assess potential impacts to listed species. Listed species are those that are threatened or endangered (in danger of extinction throughout all or a significant portion of their range) and have been the subject of final regulation and listing in the Federal Register. Those species officially proposed for listing in a Federal Register notice are also represented.

The FESA prohibits the take of federally-listed species. "Take" includes not only direct mortality but includes other actions that may result in adverse impacts such as loss of habitat. Sections seven and ten of the FESA allow "incidental take" of a listed species via a federal or private action, respectively, through formal consultation with the USFWS. In lieu of a separate Permit, an applicant may be included in a local Habitat Conservation Plan (HCP) instead.

3.1.2.2 Executive Order 11990 (Protection of Wetlands, May 24, 1977)

Executive Order 11990 directs that each federal agency will provide leadership and will take action to minimize the destruction, loss or degradation of wetlands when: (1) acquiring, managing, and disposing of federal land and facilities; (2) providing federally undertaken, financed, or assisted construction and improvement; and (3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

3.1.2.3 Federal Clean Water Act

Wetlands, under Section 404 of the CWA, are areas that are periodically or permanently "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions."

Pursuant to Section 404 of the CWA (33 U.S.C. 1344), an Individual or Nationwide Permit is required when a proposed project will cause the obstruction or alteration of "navigable waters"

of the U.S. The term “waters of the U.S.” has a broad meaning and incorporates both deep water aquatic habitats and special aquatic sites, including wetlands, as follows:

- The territorial seas with respect to the discharge of fill material.
- Coastal and inland waters, lakes, rivers, and streams that are navigable waters of the U.S., including their adjacent wetlands.
- Tributaries to navigable waters of the U.S., including adjacent wetlands.
- Interstate waters and their tributaries, including adjacent wetlands.
- All other waters of the U.S. not identified above, such as isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not a part of a tributary system to interstate waters or navigable waters of the U.S. to which the degradation or destruction could affect interstate commerce.

The U.S. Army Corps of Engineers (COE) assumes discretionary approval over proposed projects that impact between 0.1 acres and 0.5-acres, issuing either a Nationwide Permit or an Individual Permit. An Individual Permit is automatically required where at least 0.5-acres of wetland are affected by a project. While the COE has final jurisdiction over waters of the U.S., the Natural Resources Conservation Service (NRCS) has the lead in determining wetlands in agricultural situations.

The COE typically considers U.S. Geology Survey (USGS) 7.5 - minute quadrangle map “blue line” drainages as jurisdictional waters. Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into the waters of the U.S., including wetlands, provided that the applicant demonstrates that the project design is the least damaging practicable alternative.

3.1.2.4 Bureau of Land Management - Sensitive Species

BLM Manual § 6840 defines sensitive species as “... those species that are (1) under status review by the Fish and Wildlife Service/National Marine Fisheries Service (FWS/NMFS); or (2) whose numbers are declining so rapidly that Federal listing may become necessary; or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats.” Two conditions must be met before a species may be considered as BLM sensitive: (1) a significant population of the species must occur on BLM-administered lands; and (2) the potential must exist for improvement of the species’ condition through BLM management.

3.1.2.5 BLM Resource Management Plans (RMPs)

The BLM (e.g., field offices) manages habitat conditions for wildlife species by assessing the ability of a land area to supply forage, cover, water, and space requirements prescribed in regional resource management plans. The BLM RMPs provide management standards for wildlife habitat and wildlife by assessing habitat and determining trends.

3.1.2.5.1 California Desert Conservation Act

The goal of the CDCA is to develop and implement plans to ensure long-term successful maintenance of areas of special concern in the California desert. Biological resources managed by the CDCA include fish and wildlife, vegetation, wilderness areas, wild horses and burrows.

The CDCA broke these protected areas into 4 multiple-use classes. The majority of the proposed project is located on either Class M (moderate use) or Class L (limited use) or is unclassified.

3.1.2.5.1.1 Wildlife - The wildlife element found in the CDCA area is governed by a number of public laws, acts and executive orders such as NEPA, ESA and the Sikes Act. The following apply to all Class M and L land, except where noted.

- All state and federally listed species and their critical habitat shall be fully protected.
- The sensitive species shall be given protection in management decisions consistent with BLM policies.
- Control of predators and pests shall be allowed within the limits of existing state and federal laws.
- Habitat manipulation on Class L land may be allowed, subject to environmental assessment. Use of chemical and mechanical vegetation manipulation may additionally be allowed on Class M land.
- Native or established exotic species may be introduced or re-introduced.
- Any wetland or riparian areas shall be considered in all proposed land use actions. These areas must be managed in accordance with Executive Order 11990, Protection of Wetlands (42 CFR 26951) and legislative and secretarial direction and BLM manual 6740.

3.1.2.5.1.2 Vegetation - The fragile nature of vegetation typical to arid climates makes it an especially important resource to protect. The following apply to all Class M and L lands, except where noted.

- All rare, threatened or endangered species shall be fully protected.
- Removal of native plants, commercial or non-commercial, may be allowed by permit, only after NEPA requirements are met and necessary stipulations are developed.
- All sensitive plant species will be given protection in management decisions consistent with BLM policies.
- Mechanical control of vegetation is not permitted on Class L land. It may be allowed on Class M land after consideration of the possible impacts.
- Chemical control of noxious weeds may be permitted after site planning is conducted on Class L land. Spot application is permitted on Class M land.

3.1.2.5.2 Coachella Valley Plan Amendment

The BLM's Coachella Valley CDCA Plan Amendment (CVPA), which was finalized in December 2002, addresses the western end of the project area within Riverside County. The CVPA was developed in coordination with the Coachella Valley Association of Governments in support of local efforts to prepare a Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP). The CVPA includes goals, objectives, and management prescriptions for comprehensive management of public land, including actions supporting recovery of ten species listed under the FESA.

The CVPA expanded several special management areas within the project area to protect a variety of threatened or endangered species. Specifically, the CVPA would expand or create:

- The Coachella Valley ACEC/Wildlife Habitat Management Area to include all BLM parcels located in the Coachella Valley Multi Species Habitat Conservation Program conservation land and approximately 228,917 acres already protected in various ACEC's and Wilderness Areas and;
- The Dos Palmas ACEC by approximately 5,160 acres to provide migratory and breeding habitat for several bird species and Orocopia sage.

The CVPA does not modify or change the previously designated utility corridors in the planning area.

3.1.2.5.3 Northern and Eastern Colorado Desert Coordinated Desert Management Plan

The NECO planning area of the CDCA spans 5.5 million acres in the southeastern California Desert, and covers the eastern and central portions of the project area. The NECO Plan, which was finalized in December 2002, provides management direction for a variety of sensitive species and habitats on BLM and National Park Service land, as well as the CMAGR. The NECO Plan primarily addresses recovery of the desert tortoise, conservation of a variety of other species, modifies management of wild burro herds in the planning area, and updates policies regarding ORV use and public land access and use.

3.1.2.6 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This Act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of Prey are protected in California under the California Fish and Game Code § 3503.5, 1992. Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the Order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

3.1.2.7 California Endangered Species Act (CESA)

Under the CESA, the CDFG has the responsibility for maintaining a list of threatened species and endangered species designated under state law (§ California Fish and Game Code 2070), and also maintains a list of “candidate species” which are species that the CDFG has formally noticed to the public as being review for addition to the endangered or threatened species list. CDFG also maintains lists of *species of special concern*, which serve as “watch lists”. Fully Protected Species are those for which no possession nor take is permitted (CDFG Code §§ 3511, 4700, 5050, and 5515). Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species. Project-related

impacts to species on the CESA endangered or threatened list would be considered significant and would require mitigation. Impacts to species of concern would be considered significant under circumstances discussed below.

3.1.2.8 CEQA Guidelines § 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines § 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (i.e. candidate species) would occur. Thus, CEQA provides a lead agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

3.1.2.9 Native Plant Protection Act (CDFG Code §§ 1900-1913)

The Native Plant Protection Act (NPPA) prohibits the import, take, possession, or sale of rare and endangered native plants, except under certain circumstances, such as incident to the possession or sale of real property on which the plant is growing.

3.1.2.10 California Desert Native Plants Act (California Food and Agriculture Code §§ 80001-80006)

The California Desert Native Plants Act (CDNPA) allows removal of certain non-listed desert plants under permits issued by the county agricultural commissioner or sheriff.

3.1.2.11 Executive Order 11312: Prevention and Control of Invasive Species

Executive Order 11312 (February 3, 1999) directs all federal agencies to prevent and control introductions of noxious species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee that oversees and facilitates implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

3.1.2.12 California Native Plant Society

The CNPS has created four lists to categorize degrees of concern for rare, threatened, and endangered plants of California. Inclusion on the CNPS lists does not accord legal protection to any species of plant or animal. These lists may be described as follows:

- List 1A. Plants that are presumed to be extinct in California.
- List 1B. Plants that are presumed to be rare, threatened or endangered in California or elsewhere.
- List 2. Plants that are presumed to be rare, threatened, or endangered in California, but more common elsewhere.

- List 3. Plant species for which more information is needed to be properly categorized, and includes an assemblage of taxa that have been transferred from other lists or have been suggested to CNPS for consideration.
- List 4. Plant species, which are not currently threatened or vulnerable but are considered to have limited distribution in California and, because of their uncommon status, should be monitored.

3.1.2.13 Riverside County General Plan

Riverside County encourages the protection and preservation of wildlife for the maintenance of the balance of nature. The conservation of wildlife shall be carried out in conjunction with such actions necessary to protect sensitive, rare, endangered and threatened species of wildlife and their habitats. Programs to consolidate public land as a means of preserving natural habitats shall be encouraged and supported (County of Riverside 1992).

3.1.2.14 Imperial County General Plan

Regarding biological resource conservation, the Imperial County General Plan identifies that the County will provide a framework for the preservation and enhancement of natural and created open space, which provides wildlife habitat values (County of Imperial 1993).

3.1.2.15 Coachella Valley Multiple Species Habitat Conservation Plan

Local governments under the leadership of the Coachella Valley Association of Governments are developing the Coachella Valley MSHCP. The MSHCP will create large interconnected preserves for sensitive species and their habitats while streamlining the regulatory process outside of the reserve areas. After a process that included detailed analysis by a team of scientists and extensive public meetings, three conservation alternatives were prepared as part of an administrative draft plan. A single preferred plan is now being developed through public meetings and scientific review. A public draft plan should be available in early 2003.

3.1.3 Environmental Consequences

This section identifies potential impacts of the Proposed Project and alternatives on biological resources, including vegetation (i.e., plant communities, riparian communities and wetlands), wildlife and wildlife habitats, and special-status species. This section also includes mitigation to avoid or eliminate the impacts or reduce the effects to a less-than-significant level. First, a general discussion of the assessment methods and criteria used for determining impact significance is provided. Section 3.1.3.2 provides a detailed description of potential impacts that may occur as a result of the Proposed Project. Mitigation measures are provided for each impact when available to reduce or avoid potential impacts. The remaining sections provide a discussion of potential impacts of the project alternatives, and when possible provide a relative comparison of these impacts with the impacts identified for the Proposed Project.

3.1.3.1 Methodology and Significance Criteria

The assessment of potential impacts to biological resources was prepared based on the current Proposed Project and alternative design components as presented in Section 2, and considers the potential effects of construction and operation of the Proposed Project and alternatives on existing biological resources within the project area as identified in Section 3.1.1.

3.1.3.1.1 Significance Criteria

Significance criteria were developed to assess impacts on biological resources based on guidance provided by State CEQA Guidelines, NEPA, and recent EIRs/EISs that have been certified in Riverside County. The potential impacts were evaluated relative to the following standards of significance; and, based on these standards, the potential effects of the Proposed Project have been categorized as either “*less than significant*”, “*potentially significant*” (when the actual outcome of an impact would be influenced by presently unknown or undetermined factors), or “*significant*.” The impacts evaluation incorporate general and specific mitigation and/or protection measures that reduce potential significant impacts to less than significant, unless otherwise noted.

3.1.3.1.1.1 Vegetation - The following general criteria were considered in determining whether an effect on vegetation resources would be significant:

- Federal or State legal protection of the resource or species;
- Federal or State agency regulations and policies;
- Local regulations and policies;
- Uniqueness or rarity of the resource both locally and regionally;
- Biological importance of resource;
- Magnitude of the disturbance, loss, or effect (e.g., substantial/not substantial); and
- Susceptibility of the affected resource to disturbance.

Based on the CEQA Guidelines and the general criteria identified above, effects on vegetation resources were considered significant if the project would result in any of the following:

- Long-term degradation of a sensitive plant community because of substantial alteration of landform or site conditions (e.g., alteration of wetland hydrology);
- Filling or degradation of wetlands and other waters of the U.S. subject to the jurisdiction of the COE pursuant to the federal CWA;
- Substantial loss of a plant community and associated wildlife habitat;
- Fragmentation or isolation of plant communities with important wildlife habitat values, especially riparian and wetland communities.

3.1.3.1.1.2 Wildlife - The following criteria were used to evaluate the significance of the impacts. Project construction and operation activities would be considered to have a significant impact on wildlife and wildlife habitat if they would:

- Substantially affect riparian habitat.
- Substantially affect habitats considered regionally rare or uncommon.
- Substantially interfere with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or substantially impede the use of native wildlife nursery sites.
- Conflict with the provisions of an adopted HCP or other approved local, regional, or state HCP.
- Cause the substantial long-term loss and permanent reduction or substantial alteration of existing wildlife habitat or wildlife populations.

3.1.3.1.1.3 Special-Status Species - Project construction and operation activities would have a significant impact on special-status species if they would:

- Substantially reduce the distribution or abundance of any species identified as federally Threatened or Endangered, Candidate, Species of Concern, California State Protected, or California BLM Sensitive Species.
- Result in substantial temporary or permanent loss or alteration of the habitat of federally Threatened or Endangered, Candidate, USFWS Species of Concern, California State Protected, or California Sensitive Species that affects the distribution or abundance of those species.

3.1.3.2 Proposed Project Impacts and Mitigation Measures

This section identifies potential biological resources impacts that may occur as a result of construction and operation of the Proposed Project. Impacts identified below are subdivided for ease of reference into the following categories: Vegetation, Wildlife, Special-Status Species, and “waters of the U.S.”

3.1.3.2.1 Vegetation Community Impacts

Vegetation resources could be directly and indirectly affected by construction, operation and maintenance activities. Construction of a transmission line follows the following sequence: 1) identifying and constructing access road; 2) clearing of right-of-way and structure sites (including construction yards and, if needed, foundation concrete mixing areas, or “batch plants”); 3) installing foundations; 4) assembling and erecting the structures; 5) clearing of tensioning and splicing conductor work areas, and conductor installation equipment work sites for pulling; 6) installing ground wires and conductors, and installing counterpoise/ground rods; 7) and cleanup and site reclamation. Various phases of construction would occur simultaneous at different locations throughout the construction process. This would require several

construction crews operating in these different locations. As detailed in Table 2-2 (Section 2.2.4 Project Construction), general design characteristics and corresponding disturbance acreage calculations are generalized and catalogued for the proposed transmission line alternatives.

Construction and operation and maintenance activities that could result in the temporary or permanent loss or degradation of vegetation communities include:

- Blading/grading of spur roads, pulling and tensioning sites, construction pad clearance at each tower site, and material staging areas;
- Improvements to some portions of the existing access roads (e.g., especially in sandy areas);
- Vegetation removal where needed for construction vehicle access, tower installation, and electrical clearance, if required;
- Excavations resulting from hole augering for tower footings;
- Utilization of temporary material construction staging areas;
- Soil compaction;
- Introduction and proliferation of noxious weeds;
- Loss of topsoil;
- Alteration of soil horizons and structure at auger footing locations;
- Equipment access through non-sensitive stream channels (e.g., desert dry washes that do not support sensitive species, critical habitat, or microphyllous riparian habitat); and
- Vehicle access for as-needed maintenance and emergency repairs.

Vegetation Impact 1: *Construction and operation of the Proposed Project would result in the permanent loss of vegetation communities.*

- Construction of the Proposed Project would require vegetation crushing, clearing, or other ground disturbance that would result in both temporary disturbance and permanent conversion of existing vegetation and habitat within construction areas within the 118 mile corridor (note that potential impacts to riparian habitats are discussed below under Vegetation Impact 3). Table 3.1-2 summarizes the amount of temporary and permanent disturbance that would be associated with various project components. Although the Proposed Project would result in the loss or conversion of these vegetation communities, such disturbance is not considered significant due to the large amount and general distribution of similar habitats throughout the project region. The activities described in the Reclamation Plan (Appendix F) to reclaim any of those temporarily disturbed areas that would not be utilized for future routine operation and maintenance activities would be completed following construction. Although this impact is considered less than significant, implementation of Vegetation Impact 1 Mitigation would serve to further reduce this impact.

**Table 3.1-2
Proposed Project Temporary and Permanent Habitat Disturbance Areas^a**

Activity/ Project Component ^b	Transmission Lines Facilities	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
		Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Substation/ Switching Station at Hobsonway	230-kV	0	0	25	25	0	0	0	0	0	0
	500-kV	0	0	25	25	0	0	0	0	0	0
Devers Substation Modifications	230-kV	0	0	0	0	0	0	0	0	5	5
	500-kV	0	0	0	0	0	0	0	0	5	5
Dillon Road Substation	230-kV	0	0	0	0	0	0	0	0	25	25
	500-kV	0	0	0	0	0	0	0	0	25	25
Tower Footings ^c	230-kV	427	12	243	7	13	1	195	5	192	5
	500-kV	366	10	209	6	11	1	167	5	164	5
Transmission Line Stringing Pulling/ Tensioning Sites ^d	230-kV	26	0	15	0	1	0	12	0	12	0
	500-kV	26	0	15	0	1	0	12	0	12	0
Spur Roads ^e	230-kV	11	11	6	6	1	1	5	5	5	4
	500-kV	10	10	6	6	1	1	4	4	5	4
Total		866	43	544	75	28	4	395	19	450	78

- ^a Temporary and permanent disturbance areas are indicated in acres and all denoted vegetation communities have been generated from GAP analysis data layer.
- ^b Acreages shown are approximate and would vary dependent upon final transmission line configuration (500 kV or 230-kV), location of structures, and right-of-way alignment.
- ^c Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- ^d Pulling and tensioning sites are estimated to occur every 10,000 linear feet and require a disturbance area of 300 feet x 150 feet.
- ^e New spur road construction was assumed to be 100 feet of linear distance x 24 feet road width at each tower location..

Vegetation Impact 1 Mitigation: *Adverse effects on vegetation disturbance during construction would be minimized as practicable.*

The following measures would be implemented to reduce construction disturbances and maximize recovery of the vegetation communities:

- During construction, travel would be restricted along the existing access roads and spur roads to the shortest feasible path to minimize impacts to vegetation communities.
- Existing access roads would be used to the maximum extent allowable, and construction of new access and spur roads would be limited to the extent practicable.
- Vegetation removal would be minimized wherever possible and would be restricted in sensitive resource areas (e.g., areas with erodible soils and designated areas of critical environmental concern).
- To the extent possible, grading and scrubbing of vegetative cover shall be avoided on all spur roads and tower pad locations, and all vehicular traffic shall drive within field designated overland routes.

Vegetation Impact 2: *Construction, operation, and maintenance activities could result in the introduction and dispersal of noxious weeds.*

Construction, operation, and maintenance activities could introduce or spread noxious weeds into currently uninfested areas. Construction equipment, vehicles, or imported materials may disperse plants, seeds, or pests if the appropriate preventative measures are not taken. The

introduction of noxious weeds can have direct or indirect long-term effects on vegetation resources, wildlife and wildlife habitat, and special-status plants and animals in more mesic environments including river and stream channels, burned areas, eroded slopes. Noxious plant species are largely confined to road edges, newly graded areas, and other areas where existing vegetation is crushed and soils are impacted. Potentially significant impacts associated with noxious weed introductions and spread would be minimized to less than significant through the implementation of measures contained within the Reclamation Plan (See Appendix F) and the prescribed mitigation measures listed below.

Vegetation Impact 2 Mitigation: *The following prescriptions would prevent the spread of invasive weeds into previously uninfested areas in the designated construction right-of-way.*

- Prior to initiating construction activities, all clearing and grading equipment would have the tires, axels, frame, running boards, under carriages, and soil holding areas washed and cleaned at a designated station to prevent noxious weed species transport to unaffected areas.
- A qualified weed specialist, range ecologist, or arid botanist would survey the tower pad locations, stringing and tensioning sites, new spur road sites, existing access roads that require improvements, and construction material staging areas prior to construction to identify any listed noxious species infestations. If an infestation is identified, the infestation area would be clearly delineated and staked prior to project construction and an appropriate buffer would be maintained. The lead environmental compliance monitor would ensure that construction-related activities would be prohibited within these designated exclusion zone(s). Where avoidance is infeasible, please refer to measures listed below.
- Before beginning construction activities in unavoidable infestation exclusion zones, these infestations would be controlled through acceptable mechanical (e.g., topsoil excavation and removal), cultural, or herbicide applications.
- If direct control methods or removal of noxious weed infestations in construction disturbance areas is not feasible, the noxious plants may be cut and disposed of (e.g., burned at an acceptable and permitted location) or destroyed in a manner that is acceptable to the BLM.
- The lead environmental construction monitor would educate construction personnel on noxious weed identification and the legal requirement of controlling and preventing the spread of noxious weed infestations.

Vegetation Impact 3: *Construction of the Proposed Project transmission line could remove or disturb riparian communities.*

Microphyllous riparian woodlands and arid dry washes provide important habitat for local and migratory wildlife that are considered sensitive resources and are of concern to federal and state agencies. While the transmission line would generally be constructed to span or avoid the microphyllous riparian areas and arid washes in the right-of-way, it is possible that project construction activities could result in the temporary removal or disturbance of riparian vegetation in some areas. This may potentially occur from driving construction vehicles through drainages

that support riparian vegetation or construction areas (e.g., tower pads or spur roads) that may be entirely unavoidable due to engineering constraints. The temporary or permanent loss to such communities would be a potentially significant adverse impact. Implementation of the following mitigation measure would reduce this impact to less than significant.

Vegetation Impact 3 Mitigation: *Incorporate riparian area avoidance and permit measures.*

The following actions and all permit conditions detailed within the COE Nationwide 12 permit (subject to separate approval) would be implemented by the construction manager and environmental compliance monitor(s).

- Before construction, qualified resource specialists would stake and flag or fence exclusion zones around all identified riparian woodlands. Such exclusion zones would include a 10-foot buffer to preclude sediment intrusion into the riparian areas. Earth-moving activities would be restricted from these zones, although essential vehicle operation and foot travel would be permitted on existing roads, bridges, and crossings. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities would be prohibited within the exclusion zone.
- In areas where riparian habitats are unavoidable, the construction manager in consultation with the lead environmental compliance inspector would narrow the width of the centerline to the maximum extent allowable. New spur roads and existing access roads improvements would be constructed and implemented using methodology that preserve existing hydrology. Tower pad clearance would be minimized to the maximum extent allowable.
- All temporarily disturbed riparian areas that would not be utilized for future routine operation and maintenance activities would be restored to ensure no net loss of habitat functions and values. Following construction activities, the areas would be restored as soon as practicable and the activities described in the Reclamation Plan would be implemented (Appendix F).
- Permanent, unavoidable losses of riparian areas would be mitigated by restoration and/or preservation on off-site habitats. The final mitigation acreage ratios and off-site restoration sites would be determined by the responsible agency(s) and would be conditioned through final permitting activities.

3.1.3.2.2 Wildlife Impacts

Project construction and operation and maintenance would produce direct and indirect impacts to common wildlife and their corresponding habitats. Direct effects include temporary and permanent wildlife habitat disturbance, fragmentation, displacement, vehicle-related mortalities, and avian collisions. Indirect effects include those associated with increased human presence.

Wildlife Impact 1: *Construction of the Proposed Project would result in both temporary and permanent loss of wildlife habitat and habitat fragmentation.*

Construction activities would disturb wildlife habitat (Table 3.1-2, above, lists permanent and temporary habitat disturbance associated with the Proposed Project). Permanent wildlife habitat removal would occur at the tower sites, substation expansion areas, and constructed spur roads.

Potential impacts on wildlife species and their habitats from such habitat disturbance would vary depending on the requirements of each species and the existing habitat present.

In some areas, disturbance could also result in fragmentation of existing vegetation communities/habitats. Fragmentation occurs whenever a large continuous habitat is transformed into smaller patches that are isolated from each other by both natural and human-induced mechanisms. The changed landscape functions as a barrier to dispersal for species associated with the original vegetation community/habitat. These smaller and more isolated habitats also support smaller populations, which are more vulnerable to local, stochastic extinction events, thereby causing smaller, more isolated habitats that ultimately contain fewer species and lower biodiversity. As more “edge” habitat becomes available due to fragmentation, the “edge-dwelling” species have the opportunity to “invade” the interior vegetation community/habitat and become a major threat to the survival of the “interior-dwelling” species.

The potential effects of habitat fragmentation are dependent upon several factors, including current habitat condition, proximity of additional suitable habitats, degree of proposed disturbance, density and distribution of noxious weeds, and local population size. Given the sensitivity of desert wildlife species and the relationship to edge effects and noxious weed invasions, new access road construction would create essentially all edge habitat and would therefore, have a much higher potential for impact. Through the siting of the Proposed Project transmission line, segments were selected that avoided areas with high impact potential (e.g., new access road construction and construction within large tracts of land devoid of existing linear infrastructure) and much of the transmission route is within or adjacent to existing linear facilities and/or right-of-way. As a result, the effects of potential fragmentation would not likely adversely affect wildlife habitats because of the minimal amounts of new habitat disturbance and the widespread occurrence and availability of suitable habitats adjacent to and throughout the project area. Although this impact is considered less than significant, implementation of Wildlife Impact 1 Mitigation would serve to further reduce this impact.

Wildlife Impact 1 Mitigation: *Compensate for habitat modifications per coordination with responsible resource agencies.*

Project mitigation would include habitat purchase and in-lieu fees provided to compensate for temporary and permanent loss of habitat for both common wildlife and special-status species. Mitigation ratios for high-quality habitat purchase would be developed by the responsible agencies to compensate for the appropriate acreage disturbed from the project construction and operation.

Wildlife Impact 2: *Construction activities could result in direct wildlife mortality and temporary displacement of wildlife.*

Direct mortality of small mammals, reptiles, and other less mobile species could potentially occur as a result of the use of vehicles and equipment during construction. Displacement of mobile species could occur, as species would typically seek to avoid areas where construction activities were initiated. The extent of such displacement would be partially dependent upon the type of construction activity as well as the duration and intensity.

Depending on the season and wildlife species inhabiting the area, construction activities could potentially disrupt/disturb or negatively influence mating rituals and/or nesting and breeding efforts and success. Smaller, less mobile, wildlife such as small mammals and reptiles could be potentially impacted by construction equipment, whereas, other wildlife such as birds and large mammals such as desert mule deer may be temporarily displaced from the immediate construction area.

Short-term disturbance and loss of desert mule habitat may potentially occur during construction activities within the construction corridor, spur roads, stringing and tensioning sites, and tower pads. Critical life stages of desert mule deer are tied to seasonal use patterns, migration corridors spring and winter ranges, as the deer use different portions of their range at different times of the year. While the transmission route does not cross any designated critical habitat areas, construction activities may be required outside of any of these critical life stages.

Wildlife population impacts to those common species within the project area are expected to be very minor as a result of construction activities due to the minimal amount of habitat physically disturbed relative to the surrounding habitat available. Displacement due to construction activities would not cause serious detriment to wildlife species because human disturbance would be temporarily and spatially limited, and abundant suitable, undisturbed habitats are available and widespread throughout the project corridor. Animals displaced due to the project would be able to return to the area once construction activities have concluded and areas have naturally revegetated. Although this impact is considered less than significant, the following mitigation would serve to further reduce this impact.

Wildlife Impact 2 Mitigation: *Construction activities and vehicle operation would be conducted to minimize potential disturbance of wildlife.*

The following would be required of construction contractors:

- Limit speed of vehicles along the right-of-way and access roads to 15 to 20 mph in sensitive habitats. In addition, construction and maintenance employees would also be advised that care should be exercised when commuting to and from the project area to reduce road mortality.
- Prohibit vehicle operation off the right-of-way by construction workers, including construction work and employee access, except where specified by the landowner or land management agency or where roads already exist.
- Stockpiling of equipment and parking of vehicles would be undertaken to the maximum extent allowable on previously disturbed areas proximate to the construction zone.
- Construction activities would attempt to utilize the minimum number and types of vehicles and equipment necessary on the right-of-way.
- If feasible, and where appropriate, construction activities may be scheduled to avoid critical life stages of the desert mule deer.

Wildlife Impact 3: *Construction and operation of the transmission line would result in the potential hazard for raptor species throughout the life of the project.*

Electrical transmission systems can cause injuries or death of raptors through two mechanisms: electrocutions and collisions. Electrocutions typically occur when a bird contacts two conductors or one conductor and a neutral ground wire. It is important to note that electrocution to a raptor was a major concern in the past, and the project design provides sufficient clearance to energized components to eliminate the potential for electrocutions. Bird collisions with transmission lines may occur when a transmission line or other aerial structure transects a daily flight path used by a concentration of birds, or when migrating raptors are traveling at reduced altitudes and encounter tall structures in their paths. These collisions generally occur during inclement weather or low light levels (Avian Power Line Interaction Committee [APLIC] 1994). In addition, the risk of bird collisions is higher along wetlands, valleys that are bisected by transmission lines, and within narrow passes where transmission lines are perpendicular to flight paths (APLIC 1994).

Based on these factors, the routing of the line within an existing utility corridor and paralleling the Devers-Palo Verde transmission line would not introduce significant additional flyway obstructions, as the new transmission line would benefit from visual cues that already exist in the corridor. Due to the general low abundance of raptor species occurring within the region, collisions and electrocutions from the Proposed Project is expected to be a random, rare, and unlikely event that would not have a significant adverse effect on any local or transient raptor species. Although this impact is considered less than significant, implementation of Wildlife Impact 3 Mitigation would serve to further reduce this impact.

Wildlife Impact 3 Mitigation: *Design incorporation would minimize electrocution and collision potential.*

- Current construction practices for major transmission systems now space conductors and ground wires sufficiently apart so that raptors, including bald eagles, the largest of the raptors, cannot contact two conductors or one conductor and a ground wire to cause electrocution (APLIC 1996). In addition, the conductor spacing for the 230-kV and 500-kV transmission lines would be a minimum of 20 feet and 35 feet, respectively. Both of these conductor spacing distances are significantly greater than the minimum distance that could result in simultaneous wing contact (e.g., the APLIC report shows that the wingspan of a bald eagle is from 6 feet 6 inches to 7 feet 6 inches; perched, a large raptors wing would reach out 39 inches to 51 inches).
- Collision potential with the proposed transmission line has been minimized through placement and siting of the new transmission line within a corridor that has existing facilities which provide additional visual cues that often prompt birds to gain altitude and fly over the line (Thompson 1978).

Wildlife Impact 4: *Increased public access opportunities resulting from the construction of new access roads along the Proposed Project transmission line could increase disturbance of resident wildlife species.*

Expansion of the right-of-way corridor and construction of spur roads may lead to increased human access and intrusion by OHVs. This potential for increased public access may cause indirect impacts related to harassment. Poaching is often the greatest adverse impact to wildlife as a result of increased human access, particularly for big game species (e.g., mule deer and desert bighorn sheep) (BLM 1996). In addition, large raptors, predators, and small mammals may, to a lesser degree, be subject to poaching activities.

After construction, in areas with preexisting transmission lines, increased human presence and the collection of reptiles is unlikely. However, any increase in designated wildlife management areas, national wildlife refuges or other designated critical areas would be considered a significant impact. Implementation of the following mitigation measures and compensatory habitat acquisition associated with Wildlife Impact 1 Mitigation would reduce this impact to less than significant.

Wildlife Impact 4 Mitigation: *Restrict public access.*

- During construction activities, exclusionary fencing via temporary and/or permanent construction barricades, fences with locked gates (at road intersections) and/or sign posting would be utilized, where necessary, to restrict public access in designated Wildlife Management Areas, National Wildlife Refuges, and designated critical areas by the responsible agencies. These barriers would be maintained by the applicant throughout the construction phase.
- In addition, temporary constructed spur roads that travel through sensitive or designated management areas would be reclaimed to preclude unauthorized overland vehicle access.

Wildlife Impact 5: *Construction activities may occur within the vicinity of potential habitat for nesting raptors and migratory birds.*

The Proposed Project encompasses variable habitats for nesting and migratory birds which may provide potential nesting opportunities along the alignment. These areas include native and non-native trees and shrubs, existing adjacent transmission towers, and natural rock features such as cliffs and large rock outcrops associated with the Mule Mountains, Chocolate Mountains, McCoy Mountain, Chuckwalla Mountains, Orocopia Mountains, Little San Bernardino Mountains, Cottonwood Mountains, and Indio Hills that are traversed by the alignment.

An active nest of the passerine and raptor species is fully protected against take pursuant to Section 3503 of the California Fish and Game Code. Pursuant to Section 3503 of the Fish and Game Code of California, it is unlawful to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto. Impacts could occur if trees and/or shrubs were removed that contained an active nest resulting in a direct take of a nest. This would be in violation of Section 3503.5 and, therefore, would be considered a significant impact. Implementation of the following mitigation measures would reduce this impact to less than significant.

Wildlife Impact 5 Mitigation: *Conduct pre-construction surveys prior to project initiation.*

- Prior to project construction activities, it would be determined whether any tree or shrub removal or clearing shall occur during the passerine and raptor nesting season (e.g., April 1 to August 31). If tree or shrub removals occur during the nesting season, a qualified biologist would conduct a focused survey for nests during the nesting season to identify any active nests in the Proposed Project disturbance areas. The survey shall be conducted no less than 14 days and no more than 30 days prior to the beginning of construction and subsequent tree or shrub removal. If nesting passerine or raptors are found during the focused survey, no construction or tree removal would occur within 500 feet of an active nest until the young have fledged (as determined by a qualified biologist). If nest trees are unavoidable, they would be removed only during the non-breeding season. If construction activities do not require any tree or shrub removal or clearing during the nesting season, no further mitigation would be necessary.

3.1.3.2.3 Special-Status Species

Special-Status Species Impact 1: *Possible disturbance of special-status plants.*

Plant populations can vary and appear or disappear from one year to the next, dependent upon a high number of variables. Construction, operation, and maintenance activities could potentially result in the disturbance of special-status plant species, which could potentially reduce local populations, loss of individual species, or disruption and/or reduction to the localized seed bank. Potential special-status plant species habitat locations and results of the focused surveys are summarized in Table 3.1-1 and Figures 3.1-2 through 3.1-4. During the 2002 focused surveys, most desert plants did not flower due to the extreme drought pattern. Specifically, one listed species, the Coachella Valley milkvetch, did not exhibit above ground growth in 2002 due to the extreme drought. However, during the 2002 focused surveys, 71 foxtail cactus were observed on the proposed right-of-way. Mitigation measures listed below would be implemented if the Coachella Valley milk vetch is identified during the pre-construction surveys. Mitigation measures include exclusion and/or plant salvage and relocation (listed below) and would reduce impacts to less than significant levels.

Special-Status Species Impact 1 Mitigation: *Survey and avoid and/or salvage special-status species plant in areas to be disturbed by project activities.*

- A comprehensive focused survey designed with appropriate agency consultation would be conducted prior to construction and project-related activities to identify any new special-status plant populations on proposed tower pads, spur roads, pulling and splicing sites, staging areas, or any other construction sites that would be temporarily or permanently disturbed.
- If special-status plant(s) are identified during the pre-construction surveys, vegetation communities and plant locations would be delineated on aerial photography and incorporated into the COM Plan. In addition, exclusion zones would be marked around identified populations prior to construction. These designated exclusion zones would be

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Figure 3.1-2 Special Status Plant Species Locations

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Figure 3.1-3 Special Status Reptile Species Location

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Figure 3.1-4 Special Status Wildlife Species Location

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marked in the field with stakes and flagging, and all construction-related activities would be prohibited within these zones, including vehicle operation, material and equipment storage, and other surface-disturbing activities. Where feasible, minor realignments would be implemented to avoid those populations within the designated tower pad and spur road locations.

Where avoidance is infeasible, a Plant Salvage Plan would be developed and submitted for approval from the appropriate responsible agencies. It is envisioned that the identified special-status plants would be hand salvaged and planted in an adjacent, undisturbed site.

Special-Status Species Impact 2: *Construction and operation activities could result in direct impacts to desert tortoise.*

A specific purpose of the NECO plan was to amend land use plans and management prescriptions to recover the desert tortoise. Through the adoption of the Final NECO plan, the BLM created the 820,077-acre Chuckwalla Desert Wildlife Management Area (DWMA), which is also considered Category I habitat for the desert tortoise. Approximately 50 miles of the Proposed Project alignment is within the BLM Chuckwalla DWMA ([linear length is based upon a preliminary corridor and not based on a final, professionally surveyed route] [see Figure 3.1-5]). It is important to note that the Proposed Project alignment also overlaps the USFWS (59 *Federal Register* 5280) Chuckwalla Critical Habitat Unit (1,020,600 acres).

Additionally, as specified in the Biological Opinion for the CDCA Plan (USFWS 2002b), cumulative ground disturbance would be limited to one percent of the public land in each of the adopted desert wildlife management areas (e.g., Chuckwalla DWMA). Based on the 50-mile linear length within the DWMA, preliminary temporary and permanent disturbance acreage calculations have been conducted to estimate cumulative acreage impacts within this designated habitat category. Table 3.1-3 details these preliminary disturbance calculations.

Table 3.1-3 Proposed Project NECO Cumulative Impacts to Chuckwalla DWMA/Category I Desert Tortoise Habitat						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	221	456	13	189	391	11
Transmission Line Stringing and Pulling/Tensioning Sites ^b	26	27	0	27	27	0
Spur Roads ^c	220	12	12	189	10	10
Total		495	25		428	21

^{a.} The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

^{b.} Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

^{c.} Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

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Figure 3.1-5 Desert Tortoise Observations and BLM Habitat Categories

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Based upon the disturbance calculations above, construction of the transmission line would result in surface disturbing activities that result in 495 acres of temporary impacts for the 230-kV line and 428 acres of temporary impacts for the 500-kV line, and 25 acres of permanent impacts for the 230-kV line and 21 acres of permanent impacts for 500-kV line to perennial plant cover within the Chuckwalla DWMA. Therefore, the Proposed Project would result in cumulative impacts to approximately 0.0006 – 0.0005 percent of temporary and 0.00003 percent of permanent disturbance within the 820,077-acre Chuckwalla DWMA. Upon completion of the project, all temporary and permanent disturbance areas would be professionally surveyed (e.g., via GPS), and a final acreage report would be submitted to the USFWS to be incorporated into the agency administered database.

As detailed in Table 3.1-4 below, an additional 9 miles would traverse through BLM designated Category III desert tortoise habitat.

Table 3.1-4 Proposed Project Category III Desert Tortoise Habitat Impacts						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	65	134	4	55	115	3
Transmission Line Stringing and Pulling/Tensioning Sites ^b	8	8	0	8	8	0
Spur Roads ^c	65	4	4	55	3	3
Total		146	8		126	6

^a The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

^b Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

^c Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

In addition to the effects of reduction of potential habitat from temporary and permanent project impacts, construction related impacts on the desert tortoise could include direct injury or death, their seasonal activities altered, and their habitat degraded during the construction and maintenance activities associated with the transmission line. Use of construction vehicles and routine maintenance operations could result in injury or death to desert tortoises. This is especially true with immature desert tortoises that are difficult to see due to their small size and profile. In addition, desert tortoises seeking shade under parked vehicles or equipment could be potentially run over when the vehicles and equipment are started and moved.

Compaction of soils can potentially increase vegetation loss, promote loss of soil and nutrients, reduce water absorption, increase surface temperatures, and increase the difficulties in digging burrows. New disturbance and compaction may impact cryptogamic crusts that are important in reducing erosion, controlling water infiltration, regulating soil temperatures, preadapting soils for plant growth, and accumulating organic matter.

Lastly, the spread of noxious plants is aided by surface disturbance at tower pad locations, constructed spur roads, and pulling and tensioning sites. The proliferation of noxious weeds reduces localized species densities and impacts functions that native species provide the tortoise including shade, protection from predators, and annual plant habitat suitability and productivity. Preferred food sources would decrease as a result of the increase in less palatable noxious weed plant species associated with surface disturbances. These disturbances would also become a seed source for these noxious species resulting in an off-site increase in these unpalatable plants. The occurrence of wildland fire increases as these aggressive weed species proliferate. These fires result in direct harm to desert tortoises and their habitat as well as create an environment conducive to increased weed species invasions. In summary, desert tortoise impacts resulting from construction and maintenance of the transmission line would be significant. The following mitigation measures would decrease the likelihood of an incidental take and reduce to less than significant levels.

Special-Status Species Impact 2 Mitigation: *Implement measures to decrease the likelihood of incidental take of desert tortoise and habitat mitigation.*

- Impacts to 495 acres of temporary disturbance and 25 acres of permanent disturbance would be attributed to the 230-kV option or 428 acres of temporary disturbance and 21 acres of permanent disturbance associated with 500-kV option. Category I desert tortoise habitats would be compensated at ratios calculated using the formulas detailed in USFWS (2002b) Biological Opinion for the CDCA Plan. In addition, (and dependent upon final selection of the 230-kV or 500-kV option) the above listed acreages would be added to the BLM administered database for the cumulative one percent total disturbance for the Chuckwalla DWMA.
- Only biologists with authorized USFWS permits shall handle desert tortoises.
- All handling of desert tortoises and their eggs, relocation of desert tortoises, and excavation of burrows shall be conducted by an authorized biologist in accordance with the USFWS and/or BLM recommended protocol.
- Only biologist(s) approved or authorized by the USFWS shall conduct pre-project clearance surveys for the desert tortoise or monitor project activities for compliance with any proposed protective measure issues in the Section 7 consultation.
- BLM shall submit the name(s) and credentials of the proposed project biologist(s) to the USFWS for review and approval at least 30 days prior to the onset of construction activities. No activities shall begin until a biologist(s) is approved by the USFWS.
- Approximately 50 miles of the transmission alignment would overlap USFWS designated desert tortoise critical habitat. In order to comply with Section 9 of the FESA, a formal Section 7 consultation with USFWS would be required for potential impacts to desert tortoise, and their designated critical habitat. In addition, a 2081 permit or Consistency Determination from the CDFG would also be required.
- Appendix G details specific monitoring and protection measures that would be implemented to minimize impacts to the desert tortoise during transmission line construction activities.

Special-Status Species Impact 3: *The Proposed Project transmission line could result in increased raven predation on desert tortoises.*

Roadkill, litter, and extensive urbanization along the I-10 corridor provide additional foraging opportunities for the raven. The provision of additional foraging opportunities can potentially increase the size and number of raven clutches, the successful fledging of young, and subsistence in areas previously not inhabited.

Dependent upon the type of transmission line tower design selected for the Proposed Project, newly constructed towers may provide artificial perches and nest sites for ravens. Due to the presence of existing transmission lines adjacent to the Proposed Project transmission line alignment, the Proposed Project would not create additional perch or nesting sites where none currently exist. However, any increase in raven densities would be considered a significant impact. Implementation of the following mitigation measures would reduce this impact to less than significant.

Special-Status Species Impact 3 Mitigation: *Implement measures to decrease raven populations.*

- The BLM would participate in regional passive and active raven depredation control programs in or within 1 mile of desert tortoise habitat.
- Design and operation features would be consistent with adopted land use plans.
- All litter and debris shall be promptly removed and deposited in permitted landfills by the construction contractor.

Special-Status Species Impact 4: *Temporary and permanent loss of wildlife habitat and direct mortality to the Coachella Valley fringe-toed lizard.*

The transmission line would traverse designated Coachella Valley fringe-toed lizard critical habitat associated with the Coachella Valley National Wildlife Refuge. Specifically, the proposed transmission line would traverse approximately 2,000 linear feet of designated critical habitat for the Coachella Valley fringe-toed lizard as shown on Figure 3.1-3. It is envisioned that one tower pad and one spur road would permanently disturb approximately 0.1 acre of habitat within the refuge (e.g., one tower pad [2,500 square feet] and one spur road [2,400 square feet] = 4,900 square feet). In addition to the direct effects of construction and the reduction of designated habitat, direct mortality or injury as a result of being inadvertently struck by construction vehicles could occur. It is not anticipated that the transmission line would obstruct fluvial and aeolian sand movement within this portion of the refuge.

In compliance with Section 9 of the FESA, a formal Section 7 consultation with USFWS is required for this species and its designated critical habitat. In addition, a CDFG 2081 permit or Consistency Determination is required. Mitigation measures and direct acreage compensation would be determined based on formal consultation with USFWS and CDFG. Potential impacts to the Coachella Valley fringe-toed lizard are considered significant. The following mitigation measures would decrease the likelihood of an incidental take and reduce to less than significant levels.

Special-Status Species Impact 4 Mitigation: *Implement measures to decrease the likelihood of incidental take of Coachella Valley fringe-toed lizard and habitat mitigation.*

- The Applicant would implement a Worker Environmental Awareness Program that details specific life history and graphic demonstrations of the Coachella Valley fringe-toed lizard.
- To the extent possible, construction in Coachella Valley fringe-toed lizard habitat would be limited to the inactive season for the fringe-toed lizards, which is typically May through July. If construction operations occur outside this time period within suitable habitat of the Coachella Valley fringe-toed lizard, it should occur when the air temperatures 1 inch above ground in the shade are between 96° and 112°F. The lizards should be active within this temperature range and be able to avoid crushing by vehicles and personnel.
- Pre-construction surveys for Coachella Valley fringe-toed lizard shall be conducted in areas of blows and habitat, including the blows and areas within the Coachella Valley National Wildlife Refuge and adjacent to Dillon Road. The pre-construction surveys would be conducted within 24 hours of ground disturbance and any individuals found would be captured and relocated to a USFWS/CDFG approved area.
- To reduce direct impacts to fringe-toed lizards during construction, a qualified biologist would monitor all ground-disturbing activities in Coachella Valley fringe-toed lizard habitat. The monitor(s) would be present throughout construction and restoration activities in Coachella Valley fringe-toed lizard habitat to identify, salvage, and relocate any individuals to the nearest suitable habitat. The preferred method of relocation is to allow the animals to move out of the area on their own, but active removal by hand, snake stick or other non-lethal means may be necessary.
- All construction activities shall be restricted to designated work areas, with all vehicle use occurring only on existing, designated roads. Any spoils should be stockpiled in previously disturbed areas, which have been examined for the presence of lizards (and cleared of lizards, if necessary) by a qualified biologist.
- Spur roads and other areas to be disturbed should be examined for lizards (and cleared, if necessary) by a qualified biologist immediately prior to construction.
- Habitat compensation for the Coachella Valley fringe-toed lizard would include direct compensation for any permanent disturbances within the boundaries of the Coachella Valley National Wildlife Refuge.
- In order to comply with Section 9 of the FESA, a formal Section 7 consultation with USFWS would be required for potential impacts to Coachella Valley fringe-toed lizard, and those portions of the transmission line right-of-way that traverse their designated critical habitat. In addition, a 2081 permit or Consistency Determination from the CDFG would also be required.

Special-Status Species Impact 5: *Temporary and permanent loss of wildlife habitat and direct mortality to the flat-tailed horned lizard and Colorado Desert fringe-toed lizard.*

The Proposed Project transmission line alignment is in the range and habitat of these species from Mile 89 to 114. While this area is not within a prescribed management area, it is possible that this species would occur in construction zones. Potential impacts to the flat-tailed horned lizard and Colorado Desert fringe-toed lizard are considered significant. The following mitigation measures would decrease the likelihood of an incidental take and reduce to less than significant levels.

Special-Status Species Impact 5 Mitigation: *Implement measures to decrease the likelihood of incidental take of flat-tailed horned lizard and Colorado Desert fringe-toed lizard.*

Mitigation measures include, but are not limited to the following:

- Implement a worker education program.
- Flag or otherwise mark the outer boundaries of the project construction areas where necessary to define the limit of work activities.
- Minimize habitat degradation within sand dunes by limiting travel to existing roads and surface disturbance to previously disturbed areas.
- A monitor would be required to remove flat-tailed horned or Colorado Desert fringe-toed lizards in this segment of the right-of-way. Pulling, staging, and equipment storage sites in this segment, where construction activities would be intense and extended over time, may be temporarily fenced with a lizard-proof fence (e.g., 0.5 inch mesh, buried), surveyed prior to construction and cleared of all flat-tailed horned and Colorado Desert fringe-toed lizards. If unfenced (e.g., tower pads), construction activities may require monitoring to assist in removal of all flat-tailed horned and Colorado Desert fringe-toed lizards. Specific removal and translocation criteria are defined in Foreman (1997). The surveying biologist must be familiar with flat-tailed horned and Colorado Desert fringe-toed lizard behavior and habitat associations and approved by CDFG.
- Additionally, where flat-tailed horned and Colorado Desert fringe-toed lizards are found, compensation may be required for acreage that is disturbed or lost due to project construction or operation. If lack of occupation can be reasonably demonstrated, no compensation is required and mitigation measures described above can be decreased accordingly.

Special-Status Species Impact 6: *Potential impacts to the desert rosy boa.*

Desert rosy boa inhabits primarily rocky sites in the southern Mojave and the Sonoran deserts of California and Arizona. While permanent water is not a requirement, this species can often be found near permanent or ephemeral streams. It is primarily a nocturnal species. Construction activities such as vegetation clearing and grading and vehicle traffic may potentially injure or cause mortality. Direct mortality would be considered a significant impact. The following mitigation measure would reduce impacts to less than significant levels.

Special-Status Species Impact 6 Mitigation: *Implement measures to decrease the likelihood of incidental take of desert rosy boa.*

To avoid construction-related mortalities of desert rosy boa, it is recommended that construction in or near rocky areas be conducted during daylight hours. This species is nocturnal and individuals can be avoided during daytime construction. Project construction activities would take place only during daylight hours; therefore, no additional mitigation measures are necessary.

Special-Status Species Impact 7: *Potential impacts to Couch's spadefoot.*

When Couch's spadefoot exit subterranean refugia used to reproduce, they could potentially be struck by construction vehicle traffic. Larvae may suffer mortality if ephemeral pools in which they are developing are disturbed or destroyed. Construction of the Proposed Project during and following periods of rainfall could result in such disturbance or destruction of ephemeral pools. Potential impacts to the Couch's spadefoot are considered significant. The following mitigation measure would decrease the likelihood of an incidental take and reduce to less than significant levels.

Special-Status Species Impact 7 Mitigation: *Identify and avoid ephemeral pools containing Couch's spadefoot larvae.*

If potential construction disturbance sites occur near ephemeral pools (e.g., pools developed in response to intense rainfall showers from early spring through fall), these would be examined for larvae of Couch's spadefoot. If these larvae are present, the pools would be flagged and avoided by construction activities.

Special-Status Species Impact 8: *Impacts to burrowing owls.*

Short-term direct impacts to nesting burrowing owl could result from construction of the Proposed Project. During construction activities, owl burrows may be crushed by construction equipment upgrading the existing access roads or constructing new temporary spur roads. Burrowing owls may also be displaced or abandon their burrows as a result of construction activities within the right-of-way. This could occur if burrows are close to existing access roads, new spur roads, the tower pad clearance areas, pulling and stringing areas, or the construction staging areas. This would be considered a significant impact. The following mitigation measures would decrease the likelihood of an incidental take and reduce to less than significant levels.

Special-Status Species Impact 8 Mitigation: *Implement measures to decrease the likelihood of incidental take of burrowing owls.*

- Conduct pre-construction surveys to identify occupied burrows. If owls are present on the project site, CDFG would be consulted to determine the best method for minimizing disturbance. If owls are present, and nesting is not occurring, owls may be removed via a CDFG-approved passive relocation method. Owl removal is recommended between September 1 and January 31, to avoid disruption of breeding activities. During the nesting season (February 1 through August 31), if nesting owls are discovered within the construction right-of-way, CDFG would be consulted to determine adequate nest buffers until fledging has occurred. Following fledging, owls may be passively relocated.

- If any active burrows are damaged by construction activities, CDFG would be consulted to determine off-site compensation for loss of occupied habitat. Generally, compensation lands for desert tortoise may apply to burrowing owl compensation.
- Unoccupied burrows identified within the construction right-of-way during the pre-construction surveys would be collapsed or excavated prior to construction activities to prevent owl occupancy.
- If artificial burrows are installed to minimize the effect of burrow loss, they would be placed within the home range of individual owls affected prior to burrow excavation or installment of one-way doors.
- If active burrows (e.g., eggs or fledglings) are discovered during the breeding season within the construction work area, construction activities would be curtailed within a 250 foot buffer area until the young have left the burrow (CDFG Staff Report on Burrowing Owl Mitigation, 1995).

Special-Status Species Impact 9: *Impacts to nesting Loggerhead Shrike, LeConte's Thrasher, and Black-tailed Gnatcatcher.*

The alignment contains sparse microphyllous trees and scrub-nesting habitat suitable for these three special-status birds. Construction activities could result in the destruction or disturbance of active nests that are protected under the Migratory Bird Treaty Act and Section 3503 of the Fish and Game Code. In addition, vegetation removal and grading within the proposed construction disturbance sites may also reduce suitable nesting habitat. Disturbances that compromise breeding and/or nesting efforts would represent a significant impact. The following mitigation measures would reduce impacts to less than significant levels.

Special-Status Species Impact 9 Mitigation: *Implement measures to decrease the likelihood of destruction of active loggerhead Shrike, LeConte's Thrasher, and black-tailed gnatcatcher nests.*

- Removal of nesting substrate (e.g., trees and shrubs) would be performed outside the active breeding season for each of the three species, typically April 1 to August 15. If this is not feasible, a pre-construction survey, in conjunction with the focused special-status plant surveys, would be conducted on potential disturbance areas to identify any active nests.
- If an active nest(s) are found and construction would occur within 250 feet, BLM's Compliance Inspector would consult with CDFG and/or USFWS to determine the most appropriate preventive action. It is envisioned that two scenarios are available for construction to proceed:
 - (a) Construction would be postponed within 250 feet of active nests until a qualified biologist determines that the young have fledged; or
 - (b) The applicant secures written authorization from CDFG to proceed with construction. CDFG may require that the nest(s) be continually monitored while construction continues to determine if such activities may result in adults abandoning the eggs or hatchlings and agrees to abide by any conditions.

Special-Status Species Impact 10: *Impacts to prairie falcon.*

If a foraging prairie falcon(s) is hunting within the project construction area or during routine maintenance activities, the individual(s) would most likely avoid the disturbance area and forage elsewhere. Construction related noise, traffic, or other human activities would likely keep the falcon from immediately hunting in the area of project construction while these activities are occurring. However, the corridor would be available for hunting after construction activities have ceased. In addition, the proposed alignment does not cross suitable nesting habitat (e.g., cliffs and rock faces), therefore, no significant impacts to nesting/breeding prairie falcon(s) are expected. Since construction activities would be temporary and limited in aerial extent, this potential impact would be less than significant. Although this impact is considered less than significant, implementation of Wildlife Impact 3 Mitigation would serve to further reduce this impact.

Special-Status Species Impact 10 Mitigation: *Implement measures to decrease the likelihood of incidental take of prairie falcon.*

As stated in Wildlife Impact 3 above, the design of the facility within an existing corridor would provide additional visual cues that often prompt falcons to gain altitude and fly over the line, and the conductor spacing would be greater than the maximum wing span distance of a prairie falcon in flight.

Special-Status Species Impact 11: *Impacts to chuckwalla.*

Construction activities, especially upgrades to existing access roads, could result in the mortality of injury to chuckwalla individuals and burrows. Clearing and grading activities may also result in the temporary loss of habitat for these species. Disturbances that result in mortality would represent a significant impact. The following mitigation measures would reduce impacts to less than significant levels.

Special-Status Species Impact 11 Mitigation: *Implement measures to decrease the likelihood of chuckwalla mortality.*

A qualified biologist would monitor construction activities in designated right-of-way sections in order to identify and relocate any chuckwalla.

Special-Status Species Impact 12: *Impacts to Coachella Valley round-tailed ground squirrel.*

Construction vehicle traffic and construction activities could cause mortality from burrow collapse or direct mortality or injury. This would be considered a significant impact. The following mitigation measures would reduce impacts to less than significant levels.

Special-Status Species Impact 12 Mitigation: *Implement measures to decrease the likelihood of Coachella Valley round-tailed ground squirrel mortality.*

- A qualified biologist would monitor construction activities in designated right-of-way sections in order to site and relocate any Coachella Valley round-tailed ground squirrel. The preferred method of relocation is to allow the squirrel to disperse out of the area on its own, but active removal may be necessary.
- If active burrows are identified during the focused pre-construction surveys, they would be flagged and evaluated to determine if active removal, salvaging, or passively excluding individuals or burrow collapse would negate any future potential impact.

3.1.3.2.4 Waters of the U.S

Waters of the U.S. Impact 1: *Possible short-term disturbance of other “waters of the U.S.”*

A significant number of the ephemeral, and to a much lesser extent, intermittent washes within the Proposed Project transmission line right-of-way may potentially fall under the jurisdiction of Section 404 of the CWA, Section 401 of the CWA and/or Section 1600 - 1603 Streambed Alteration Agreement(s).

Temporary and permanent impacts related to tower pad clearing, access road clearing, and new spur road construction may potentially impact numerous jurisdictional ephemeral and intermittent washes. Those construction activities that result in the placement of dredged or fill material within the ordinary high water mark (e.g., Section 404), and/or divert, obstruct, or change the natural flow of the bed or channel (e.g., Section 1600) would require a permit from the responsible agency. In addition, applicants seeking Section 404 permits must request State Section 401 certification to ensure that the proposed activity would not violate State and Federal water quality standards. Therefore, a water quality certification application may be required from the Regional Board. The Regional Boards may (a) indicate through waiver of water discharge requirements the State's intention not to take further action on the 401 certification application or (b) recommend that the application be certified or denied.

Lastly, construction in the bed and/or banks or ordinary high water marks may potentially cause increases in erosion, hydrologic changes, or riparian vegetation that would reduce the ecological and functional values of the stream or wash. This would be considered a significant impact. The following mitigation measures would reduce the impact to less than significant levels.

Waters of the U.S. Impact 1 Mitigation: *The following actions and all permit conditions issued within the COE Nationwide Permit would be implemented by IID's construction contractor. BLM's Compliance Inspector and IID's Environmental Compliance Monitor(s) would routinely inspect construction activities to verify that these measures and permit conditions have been implemented.*

- Upon completion of the final engineering design including tower structure placement via surveying, a “waters of the U.S.” survey would be completed and submitted to the COE. It is envisioned that a Nationwide 12 Permit would be required prior to project construction activities.

- Consistent with the COE's Nationwide Permit No. 12 for utility line discharges, the area of “waters of the U.S.” to be disturbed would be limited to the minimum area necessary to successfully install the transmission line.
- Spur roads and tower pad placement through arboreal arid washes would be minimized during the design engineering to the maximum extent allowable. Where such facilities are infeasible outside identified washes, habitat disturbance and tree removal would be minimized. These identified washes would be flagged prior to disturbance by a qualified resource specialist, and all construction activities would take place inside designated areas in order to ensure minimum habitat disturbance.
- “Waters of the U.S.” would be restored in a manner that encourages vegetation to reestablish to its pre-construction condition and reduces the effects of erosion on the drainage system.
- Additional compensatory, restoration, or avoidance mitigation measures may be identified by regulatory agencies (e.g., COE, USFWS) as part of the permitting process and would be implemented into the COM.

3.1.3.3 Alternative A Impacts and Mitigation Measures

Construction and operation of Alternative A would result in similar direct and indirect impacts on biological resources as those discussed above for the Proposed Project. However, due to the differences in the location and length of the Option A-1 transmission line alignment, specific impacts and impact potential may vary slightly, as discussed below.

3.1.3.3.1 Vegetation

Table 3.1-5 provides the amount of temporary and permanent habitat disturbance that would be associated with Option A-1. Although the acreages differ from those of the Proposed Project, impacts and mitigation measures would be similar as the line traverses roughly the same habitats to those identified in Vegetation Impact 1 for the Proposed Project.

Potential impacts to riparian areas that could result from Alternative A would be similar to those identified for the Proposed Project in Vegetation Impact 2. Potential introduction or spread of noxious weeds under Alternative A would be similar to that identified for the Proposed Project in Vegetation Impact 3.

3.1.3.3.2 Wildlife

Although the location of project facilities would differ slightly, potential impacts to wildlife that would occur as a result of Alternative A would be similar to those identified for the Proposed Project as discussed in Wildlife Impacts 1 through 5, above. The same mitigation measures identified for such impacts would be available for Alternative A, and would reduce potential Alternative A wildlife impacts to less than significant levels.

Table 3.1-5
Option A-1 Temporary and Permanent Habitat Disturbance Areas^a

Activity/ Project Component ^b	Transmission Lines Facilities	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
		Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Substation/ Switching Station at Hobsonway	230-kV	0	0	25	25	0	0	0	0	0	0
	500-kV	0	0	25	25	0	0	0	0	0	0
Devers Substation Modifications	230-kV	0	0	0	0	0	0	0	0	5	5
	500-kV	0	0	0	0	0	0	0	0	5	5
Dillon Road Substation	230-kV	0	0	0	0	0	0	0	0	25	25
	500-kV	0	0	0	0	0	0	0	0	25	25
Tower Footings ^c	230-kV	147	4	60	2	0	0	2	2	49	1
	500-kV	126	4	51	1	0	0	1	1	42	1
Transmission Line Stringing Pulling/ Tensioning Sites ^d	230-kV	9	0	4	0	0	0	0	0	3	0
	500-kV	9	0	4	0	0	0	0	0	3	0
Spur Roads ^e	230-kV	4	4	2	2	0	0	1	1	1	1
	500-kV	3	3	1	1	0	0	1	1	1	1
Total	230-kV	160	8	91	29	0	0	3	3	83	32
	500-kV	138	7	81	27	0	0	2	2	76	32

- ^a Temporary and permanent disturbance areas are indicated in acres and all denoted vegetation communities have been generated from GAP analysis data layer.
- ^b Acres shown are approximate and would vary dependent upon final transmission line configuration (500 kV or 230-kV), location of structures, and right-of-way alignment.
- ^c Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- ^d Pulling and tensioning sites are estimated to occur every 10,000 linear feet and require a disturbance area of 300 feet x 150 feet.
- ^e Includes improvements to existing access roads and new access/spur road construction was assumed to be 100 feet of linear distance x 24 feet road width.

3.1.3.3.3 Special-Status Species

Approximately 25 miles of the Option A-1 alignment is within the BLM Chuckwalla DWMA, ([linear length is based upon a preliminary corridor and not based on a final, professionally surveyed route] [see Figure 3.1-5]). Additionally, as specified in the Biological Opinion for the CDCA Plan (USFWS 2002b), cumulative ground disturbance would be limited to one percent of the public land in each of the adopted desert wildlife management areas (e.g., Chuckwalla DWMA). Based on the 25-mile linear length, preliminary temporary and permanent disturbance acreage calculations have been conducted to estimate cumulative acreage impacts within this designated habitat category. Table 3.1-6 details these preliminary disturbance calculations. Lastly, the entire linear length of Option A-1 alignment overlaps the USFWS Chuckwalla Critical Habitat Unit.

Table 3.1-6
Option A-1 NECO Cumulative Impacts to Chuckwalla DWMA/ Category I Desert Tortoise Habitat

	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	112	230	6	96	198	5
Transmission Line Stringing and Pulling/Tensioning Sites ^b	13	14	0	13	14	0
Spur Roads ^c	112	6	6	96	5	5
Total		250	12		217	10

- ^a The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- ^b Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.
- ^c Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

Based upon the disturbance calculations above, construction of the transmission line would result in surface disturbing activities that result in 250 acres of temporary impacts for the 230-kV line and 217 acres of temporary impacts for the 500-kV line, and 12 acres of permanent impacts for the 230-kV line and 10 acres of permanent impacts for the 500-kV line to perennial plant cover within the Chuckwalla DWMA. Therefore, Option A-1 would result in cumulative impacts to approximately 0.0003 percent of temporary and 0.00001 percent of permanent disturbance within the 820,077-acre Chuckwalla DWMA. A final construction disturbance acreage report shall be submitted to the USFWS to be incorporated into the agency administered database.

3.1.3.3.4 Waters of the U.S.

Potential impacts and permit requirements of Alternative A associated with waters of the U.S. would be similar to that discussed for the Proposed Project under waters of the U.S. Impact 1.

3.1.3.4 Alternative B Impacts and Mitigation Measures

Construction and operation of Alternative B would result in similar direct and indirect impacts on biological resources as those discussed above for the Proposed Project.

Impacts identified for the Proposed Project could also generally occur under Alternative B. However, due to differences in the location and length of the Alternative B transmission line alignment and additional facility modification specific impacts and impact potential would vary as discussed below.

3.1.3.4.1 Vegetation

Table 3.1-7 provides the amount of temporary and permanent habitat disturbance that would be associated with Alternative B. Although the acreages differ from those of the Proposed Project, impacts and mitigation measures would be similar to those identified in Vegetation Impact 1 for the Proposed Project.

Potential impacts to riparian areas that could result from Alternative B would be similar to those identified for the Proposed Project in Vegetation Impact 1. Potential introduction or spread of noxious weeds under Alternative B would be similar to that identified for the Proposed Project in Vegetation Impact 2.

Table 3.1-7 Alternative B Temporary and Permanent Habitat Disturbance Areas^a											
Activity/Project Component^b	Transmission Lines Facilities	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
		Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Substation/Switching Station at Hobsonway	230-kV	0	0	25	25	0	0	0	0	0	0
Midway Substation Modifications	230-kV	0	0	0	0	0	0	0	0	25	25
Mirage Substation Modifications Coachella Substation Modifications ^c	230-kV	0	0	0	0	0	0	0	0	0	0

Table 3.1-7 Alternative B Temporary and Permanent Habitat Disturbance Areas^a											
Activity/Project Component ^b	Transmission Lines Facilities	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
		Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Devers Substation Modifications	230-kV	0	0	0	0	0	0	0	0	5	5
Tower Footings for new transmission line construction ^d	230-kV	153	4	256	7	17	1	294	8	0	0
Transmission Line Stringing Pulling/ Tensioning Sites for new transmission line construction ^e	230-kV	9	0	15	0	1	0	18	0	0	0
Spur Roads ^f	230-kV	4	4	7	7	1	1	8	8	0	0
Total		166	8	303	39	19	2	320	16	30	30

^a. Temporary and permanent disturbance areas are indicated in acres and all denoted vegetation communities have been generated from GAP analysis data layer.

^b. Acreages shown are approximate and would vary dependent upon final transmission line configuration, location of structures, and right-of-way alignment.

^c. Coachella and Mirage Substations: Existing facilities would be upgraded, and all improvements would be within the existing footprint of the substation.

^d. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

^e. Pulling and tensioning sites are estimated to occur every 10,000 linear feet and require a disturbance area of 300 feet x 150 feet.

^f. Includes improvements to existing access roads and new access/spur road construction was assumed to be 100 feet of linear distance x 24 feet road width.

3.1.3.4.2 Wildlife

Although the location of project facilities would differ, potential impacts to wildlife that would occur as a result of Alternative B would be similar to those identified for the Proposed Project as discussed in Wildlife Impacts 1 through 5 above. The same mitigation measures identified for such impacts would be available for Alternative B, and would reduce potential Alternative B wildlife impacts to less than significant levels.

3.1.3.4.3 Special-Status Species

3.1.3.4.3.1 Plant Species - Similar to that described for the Proposed Project in Special-Status Species Impact 1, construction operation and maintenance activities associated with Alternative B could result in the disturbance of special-status plant species that occur in areas disturbed during such activities. One special status plant species, fairyduster, was observed during 1994 biological surveys of the Alternative B. Mitigation as described for the Proposed Project in Special Status Species Impact 1 Mitigation would serve to reduce this potential impact to less than significant.

3.1.3.4.3.2 Desert Tortoise - Potential direct impacts to desert tortoise under Alternative B would be similar to that described for the Proposed Project in Special-Status Species Impact 2, above. However, because the Alternative B transmission line alignment would cross less area of the Chuckwalla DWMA and USFWS designated critical habitat, the potential for impacts to desert tortoise could be expected to be less than that of the Proposed Project. Mitigation identified for the Proposed Project in Special-Status Species Impact 2 Mitigation would also be applicable for Alternative B.

Approximately 12 miles of the Alternative B alignment is within the Chuckwalla DWMA ([linear length is based upon a preliminary corridor and not based on a final, professionally surveyed route] [see Figure 3.1-5]). Additionally, as specified in the Biological Opinion for the CDCA Plan (USFWS 2002b), cumulative ground disturbance would be limited to one percent of the public land in each of the adopted desert wildlife management areas (e.g., Chuckwalla DWMA). Based on the 12-mile linear length, preliminary temporary and permanent disturbance acreage calculations have been conducted to estimate cumulative acreage impacts within this designated habitat category. Table 3.1-8 details these preliminary disturbance calculations.

Table 3.1-8			
Alternative B - NECO Cumulative Impact to Chuckwalla DWMA/Category I Desert Tortoise Habitat			
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts
Tower Footings ^a	53	109	3
Transmission Line Stringing and Pulling/Tensioning Sites ^b	6	7	0
Spur Roads ^c	53	3	3
Total		119	6

a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

Based upon the disturbance calculations above, construction of the transmission line would result in surface disturbing activities that result in 119 acres of temporary and 6 acres of permanent impacts to perennial plant cover within the Chuckwalla DWMA. Therefore, Alternative B would result in cumulative impacts to approximately 0.0001 percent of temporary and 0.000007 percent of permanent disturbance within the 820,077-acre Chuckwalla DWMA.

Lastly, approximately 7.5 miles of the transmission alignment would traverse USFWS designated desert tortoise critical habitat outside of the BLM Chuckwalla DWMA. Table 3.1-9 details these additional acreage impacts. In order to comply with Section 9 of the FESA, a formal Section 7 consultation with USFWS would be required for potential impacts to desert tortoise, and their designated critical habitat. In addition, a 2081 permit or Consistency Determination from the CDFG would also be required.

Table 3.1-9			
Alternative B – USFWS Designated Critical Habitat Impacts			
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts
Tower Footings ^a	33	68	2
Transmission Line Stringing and Pulling/Tensioning Sites ^b	4	4	0
Spur Roads ^c	33	2	2
Total		74	4

a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

Similar to that described for the Proposed Project in Special-Status Species Impact 3, and dependent upon the final tower design selection, the Alternative B transmission line towers may provide artificial perches and nest sites for ravens. Since portions of the transmission corridor follow an existing road, the potential impact from increased predation is not considered a significant impact. Where no segments of transmission structures currently exist, the impact may be significant. Special-Status Species Impact 3 Mitigation described for the Proposed Project would also be applicable to reduce this Alternative B impact to less than significant.

3.1.3.4.3.3 Coachella Valley Fringe-toed Lizard - The Alternative B transmission line alignment from the Hobsonway Substation to Midway Substation is outside the known range of the Coachella Valley fringe-toed lizard; therefore, no impacts would occur. Conversely, the Alternative B – Upgrade Section 1 would traverse approximately 2,000 linear feet within the border of the Coachella Valley National Wildlife Refuge. Based on this linear length, a maximum of two tower pads and two spur roads would need to be upgraded. It is envisioned that stringing and pulling/tensioning sites can be avoided within the refuge and no other temporary or permanent disturbances would occur.

3.1.3.4.3.4 Flat-Tailed Horned Lizard - The Alternative B transmission line alignment is within the range of the flat-tailed horned lizard from the south end of the Chocolate Mountains Aerial Gunnery Range to Midway (Foreman 1997). While this area is not within a prescribed management area, it is possible that this species may potentially occur in construction zones. Potential impacts and mitigation for Alternative B would be similar to those identified for the Proposed Project in Special-Status Species Impact and Mitigation 5. It is advisable that protocol surveys can be conducted during appropriate weather conditions and seasons, prior to construction, to determine if this portion of the right-of-way is occupied by flat-tailed horned lizards. If lack of occupation can be reasonably demonstrated, no compensation should be required and mitigation measures described for the Proposed Project can be decreased accordingly.

3.1.3.4.3.5 Desert Rosy Boa - Potential impacts to desert rosy boa resulting from Alternative B would be similar to that described for the Proposed Project in Special-Status Species Impact 6. As with the Proposed Project, impacts to this species would not be expected under Alternative B because construction activities would take place during daylight hours when the boa would not be present.

3.1.3.4.3.6 Couch's Spadefoot - A similar potential for impact to Couch's spadefoot would exist under Alternative B as compared to the Proposed Project. Mitigation to reduce this potential impact to less than significant would be the same as that identified for the Proposed Project in Special-Status Species Impact 7 Mitigation.

3.1.3.4.3.7 Burrowing Owl - Potential impacts to burrowing owls would be similar to that described for the Proposed Project in Special-Status Species Impact 8 above. Mitigation identified for the Proposed Project would also serve to mitigate potential impacts of Alternative B on burrowing owls.

3.1.3.4.3.8 Colorado River Toad - Colorado River toad occupies macro-habitats including deserts, oak-sycamore communities of mountain canyons, and tropical thorn forests. Unlike most toads, the Colorado River toad is semi-aquatic and must remain in the vicinity of dependable water in order to survive. Consequently, the principle habitat of this species is within the drainage of permanent rivers and streams of the Sonoran Desert (Fouquette 1970).

While these toads are often found near permanent water, they also frequent temporary pools and have been reported several miles from water. Although no toads were observed in the Alternative B right-of-way, these toads may have the potential to occur near the East Highline Canal as one recorded occurrence has been reported near the Lateral Drain west of Niland (CNDDDB 2002). The potential presence of this species would create a potential for impacts during Alternative B construction activities adjacent to the East Highline Canal. However, this potential impact would not occur under this alternative alignment, as suitable habitat for the Colorado River toad does not exist in areas that would be disturbed by construction activities. The following mitigation would serve to reduce this potential Alternative B impact:

This species is primarily nocturnal and, assuming no impacts would occur to the East Highline Canal or adjacent vegetation, individuals can be avoided by daytime construction. Alternatively, should construction near the East Highline Canal be scheduled for spring through summer, when breeding occurs, a survey may be conducted to assess the presence of these species at that time. A determination of absence resulting from focused surveys should negate the need for construction constraints or additional mitigation measures.

3.1.3.4.4 Special-Status Riparian Bird Species

Construction activities adjacent to the Coachella and East Highline Canals under Alternative B could potentially disrupt nesting activities of special-status riparian bird species, especially least bell's vireo and southwestern willow flycatcher. This potential impact would not occur under the Alternative B as suitable habitat for these riparian bird species does not occur in areas that would be affected by Alternative B. The following mitigation would minimize potential Alternative B impacts to special-status birds inhabiting or nesting in that vegetation:

- A focused protocol survey would be conducted within 30 days of construction to assess species presence and the need for further mitigation.
- All tower pads would be sufficiently distant from the Coachella or East Highline canals that no habitat degradation would occur to the canals or adjacent riparian vegetation.
- Disruption of nesting for riparian bird species can be further minimized by limiting construction near the East Highline Canal to fall and winter months (e.g., the non-nesting season).

3.1.3.4.4.1 Razorback Sucker - Razorback sucker occurrence is known in the East Highline Canal near Niland. Construction activities that would disturb or introduce contaminants to the canal could impact this fish specie. Preliminary Alternative B transmission line designs anticipate that all towers and construction areas would be located at sufficient distances from East Highline Canal to avoid potential disturbance of the canal. In the event that engineering changes would occur in subsequent Alternative B transmission line design that could result in siting facilities nearer to the East Highline Canal, potential impacts to razorback sucker could occur. The following mitigation measures would ensure that no razorback sucker are impacted by the project:

- All tower pads, equipment laydown areas, and pulling sites would be located at least 75 feet from the edge of the East Highline Canal.
- No dirt or other project-related materials would be permitted in the East Highline Canal.

3.1.3.4.5 Waters of the U.S.

The Alternative B transmission line alignment crosses East Highline Canal, a waterway that provides documented and consistent habitat for several special-status species (see discussion above concerning southwestern willow flycatcher, least Bell's vireo, and razorback sucker). As discussed, preliminary designs for the Alternative B transmission line would avoid impacts to waters and wetlands, as tower pads and pulling sites would be located at sufficient distances from these resources to ensure that impacts would not occur. Implementation of the following mitigation measures would further reduce impacts. Additional measures may also be required as part of the COE permits obtained for the project:

- Consistent with the COE's Nationwide Permit No. 12 for utility line discharges, the area of waters of the U.S. to be disturbed would be limited to the minimum area necessary to successfully install the transmission line.
- Construction areas would be flagged by a resource specialist prior to the onset of construction, in order to ensure minimum habitat disturbance. All construction activities would take place inside designated areas only. In addition, the applicant would implement all designated conditions required by the issued COE permit.

3.1.3.5 Option B-1

Construction and operation of Option B-1 Route Alternative would result in similar direct and indirect impacts on biological resources as those discussed above for the Proposed Project.

3.1.3.5.1 Vegetation

Table 3.1-10 provides the amount of temporary and permanent habitat disturbance that would be associated with Option B-1 Route Alternative. Impacts and mitigation measures would be similar as the line traverses roughly the same habitats to those identified in Vegetation Impact 1 for the Proposed Project.

Potential impacts to riparian areas that could result from Option B-1 would be similar to those identified for the Proposed Project in Vegetation Impact 2. Potential introduction or spread of noxious weeds under Option B-1 would be similar to that identified for the Proposed Project in Vegetation Impact 3.

Table 3.1-10										
Option B-1 Temporary and Permanent Habitat Disturbance Areas^a										
Activity/Project Component^b	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Tower Footings ^c	65	2	81	2	4	1	0	0	0	0
Transmission Line Stringing Pulling/	4	0	5	0	0	0	0	0	0	0

Table 3.1-10 Option B-1 Temporary and Permanent Habitat Disturbance Areas^a										
Activity/Project Component^b	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Tensioning Sites ^d										
Spur Roads ^e	2	2	2	2	1	1	0	0	0	0
Total	71	4	88	4	5	2	0	0	0	0

^a. Temporary and permanent disturbance areas are indicated in acres and all denoted vegetation communities have been generated from GAP analysis data layer.

^b. Acreages shown are approximate and would vary dependent upon final transmission line configuration (500 kV or 230-kV), location of structures, and right-of-way alignment.

^c. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

^d. Pulling and tensioning sites are estimated to occur every 10,000 linear feet and require a disturbance area of 300 feet x 150 feet.

^e. Includes improvements to existing access roads and new access/spur road construction was assumed to be 100 feet of linear distance x 24 feet road width.

3.1.3.5.2 Wildlife

Although the location of project facilities would differ slightly, potential impacts to wildlife that would occur as a result of Option B-1 would be similar to those identified for the Proposed Project as discussed in Wildlife Impacts 1 through 5, above.

3.1.3.5.3 Special-Status Species

Approximately 4 miles of the Option B-1 alignment is within the Chuckwalla DWMA [linear length is based upon a preliminary corridor and not based on a final, professionally surveyed route] [see Figure 3.1-5]). Additionally, as specified in the Biological Opinion for the CDCA Plan (USFWS 2002b), cumulative ground disturbance would be limited to one percent of the public land in each of the adopted desert wildlife management areas (e.g., Chuckwalla DWMA). Based on the 4-mile linear length, preliminary temporary and permanent disturbance acreage calculations have been conducted to estimate cumulative acreage impacts within this designated habitat category. Table 3.1-1 details these preliminary disturbance calculations.

Based upon the disturbance calculations above, construction of the transmission line would result in surface disturbing activities that result in 34 acres of temporary and 2 acres of permanent impacts to perennial plant cover within the Chuckwalla DWMA. Therefore, Option B-1 would result in cumulative impacts to approximately 0.00004 percent of temporary and 0.000002 percent of permanent disturbance within the 820,077-acre Chuckwalla DWMA.

Table 3.1-11 Option B-1 – NECO Cumulative Impact to Chuckwalla DWMA/Category I Desert Tortoise Habitat			
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts
Tower Footings ^a	15	31	1
Transmission Line Stringing and Pulling/Tensioning Sites ^b	2	2	0
Spur Roads ^c	15	1	1
Total		34	2

- a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.
- c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

As detailed in Table 3.1-12, approximately 2 miles of the transmission alignment would traverse USFWS designated desert tortoise critical habitat outside of the Chuckwalla DWMA.

Table 3.1-12 Option B-1 - USFWS Designated Critical Habitat Impacts			
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts
Tower Footings ^a	7	15	1
Transmission Line Stringing and Pulling/Tensioning Sites ^b	1	1	0
Spur Roads ^c	7	1	1
Total		17	2

- a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.
- c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

3.1.3.5.4 Waters of the U.S.

Potential impacts and permit requirements of Option B-1 associated with waters of the U.S. would be similar to that discussed for the Proposed Project under waters of the U.S. Impact 1.

Alternative B Upgrade Segment 1

Tower structures between the IID Coachella and SCE Mirage Substations (approximately 100 towers) would receive structural and foundation reinforcement, and conductors would be replaced and restrung. These activities would result in temporary impacts in the vicinity of the tower structures.

As discussed in Proposed Project Special-Status Species Impact 4 above, approximately 2,000 linear feet of this route traverses through the Coachella Valley National Wildlife Refuge.

Mitigation measures would reduce the direct and indirect impacts to the Coachella Valley fringe-toed lizard to less than significant levels.

Alternative B Upgrade Segment 2

This segment would require tower structures foundation and reinforcement and conductor replacement and restringing from the SCE Mirage Substation to the Devers Substation. Since this segment of the route is closest to Thousand Palms and Palm Springs, a majority of this area traverses areas with high concentrations of trash and debris and areas of high disturbance. No new impacts were identified for this segment.

3.1.3.6 Alternative C Impacts and Mitigation Measures

Construction and operation of Alternative C would result in similar direct and indirect impacts on biological resources as those discussed above for the Proposed Project. However, due to slight differences in the location and length of the Alternative C transmission line alignment, specific impacts and impact potential may vary slightly, as discussed below.

3.1.3.6.1 Vegetation

Table 3.1-13 provides the amount of temporary and permanent habitat disturbance that would be associated with Alternative C. Although the acreages differ from those of the Proposed Project, impacts and mitigation measures would be similar to those identified in Vegetation Impact 1 for the Proposed Project.

Potential impacts to riparian areas that could result from Alternative C would be similar to those identified for the Proposed Project in Vegetation Impact 2. Potential introduction or spread of noxious weeds under Alternative C would be similar to that identified for the Proposed Project in Vegetation Impact 3.

3.1.3.6.2 Wildlife

Although the location of project facilities would differ slightly, potential impacts to wildlife that would occur as a result of Alternative C would be similar to those identified for the Proposed Project as discussed in Wildlife Impacts 1 through 5, above. The same mitigation measures identified for such impacts would be available for Alternative C, and would reduce potential Alternative C wildlife impacts to less than significant levels.

3.1.3.6.3 Special-Status Species

Potential special-status species impacts of Alternative C would be similar to those identified for the Proposed Project. Table 3.1-1 identifies species with the potential to occur within the Alternative C right-of-way. These species and their habitat are similar to those identified for the Proposed Project.

Table 3.1-13 Alternative C Temporary and Permanent Habitat Disturbance Areas^a											
Activity/ Project Component ^b	Transmission Lines Facilities	Sonoran Creosote Brush		Desert Dry Wash		Agricultural Land		Sonoran Desert Mixed Scrub		Mojave Creosote Brush Scrub	
		Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Substation/Switching Station at Hobsonway	230-kV	0	0	25	25	0	0	0	0	0	0
	500-kV	0	0	25	25	0	0	0	0	0	0
Devers Substation Modifications	230-kV	0	0	0	0	0	0	0	0	5	5
	500-kV	0	0	0	0	0	0	0	0	5	5
Dillon Road Substation	230-kV	0	0	0	0	0	0	0	0	25	25
	500-kV	0	0	0	0	0	0	0	0	25	25
Tower Footings ^c	230-kV	438	12	227	6	13	1	196	5	194	5
	500-kV	376	10	195	5	11	1	168	5	166	5
Transmission Line Stringing Pulling/ Tensioning Sites ^d	230-kV	26	0	14	0	1	0	12	0	12	0
	500-kV	26	0	14	0	1	0	12	0	12	0
Spur Roads ^e	230-kV	12	12	6	6	1	1	5	5	5	5
	500-kV	10	10	5	5	1	1	4	4	4	4
Total		888	44	511	72	28	4	397	19	453	79

- ^a. Temporary and permanent disturbance areas are indicated in acres and all denoted vegetation communities have been generated from GAP analysis data layer.
- ^b. Acreages shown are approximate and would vary dependent upon final transmission line configuration (500 kV or 230-kV), location of structures, and right-of-way alignment.
- ^c. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- ^d. Pulling and tensioning sites are estimated to occur every 10,000 linear feet and require a disturbance area of 300 feet x 150 feet.
- ^e. Includes improvements to existing access roads and new access/spur road construction was assumed to be 100 feet of linear distance x 24 feet road width.

Approximately 37 miles of the Alternative C alignment is within the Chuckwalla DWMA ([linear length is based upon a preliminary corridor and not based on a final, professionally surveyed route] [see Figure 3.1-5]). Additionally, as specified in the Biological Opinion for the CDCA Plan (USFWS 2002b), cumulative ground disturbance would be limited to one percent of the public land in each of the adopted desert wildlife management areas (e.g., Chuckwalla DWMA). Based on the 37-mile linear length, preliminary temporary and permanent disturbance acreage calculations have been conducted to estimate cumulative acreage impacts within this designated habitat category. Table 3.1-14 details these preliminary disturbance calculations.

Table 3.1-14 Alternative C - NECO Cumulative Impacts to Chuckwalla DWMA/Category I Desert Tortoise Habitat						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	164	339	9	140	290	8
Transmission Line Stringing and Pulling/ Tensioning Sites ^b	20	20	0	20	20	0
Spur Roads ^c	164	9	9	140	8	8
Total		368	18		318	16

- ^a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.
- ^b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.
- ^c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

Based upon the disturbance calculations above, construction of the transmission line would result in surface disturbing activities that result in 368 acres of temporary impacts for the 230-kV line and 318 acres of temporary impacts for the 500-kV line, and 16 - 18 acres of permanent impacts for the 230-kV line and 16 acres of permanent impacts for the 500-kV line to perennial plant cover within the Chuckwalla DWMA. Therefore, Alternative C would result in cumulative impacts to approximately 0.0004 percent of temporary and 0.00002 percent of permanent disturbance within the 820,077-acre Chuckwalla DWMA.

As detailed in Table 3.1-15, an additional 9 miles would traverse through BLM designated Category III desert tortoise habitat.

Table 3.1-15 Alternative C Category III Desert Tortoise Habitat Impacts						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	65	134	4	55	115	3
Transmission Line Stringing and Pulling/Tensioning Sites ^b	8	8	0	8	8	0
Spur Roads ^c	65	4	4	55	3	3
Total		146	8		126	6

a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet.

b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

As detailed in Table 3.1-16, approximately 10 miles of the transmission alignment would traverse USFWS designated desert tortoise critical habitat outside of the BLM Chuckwalla DWMA.

Table 3.1-16 Alternative C USFWS Desert Tortoise Critical Habitat Impacts						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	42	86	2	36	74	2
Transmission Line Stringing and Pulling/Tensioning Sites ^b	5	5	0	5	5	0
Spur Roads ^c	42	2	2	36	2	2
Total						

a. The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

b. Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

c. Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

Lastly, as detailed in Table 3.1-17, construction of the transmission line would result in temporary and permanent impacts to approximately 7 linear miles within the Palen – Ford Wildlife Habitat Management Area (WHMA). Future management prescriptions within the WHMA may require altered routes of travel and active management for the specific special-status species and habitats.

Table 3.1-17 Alternative C – Palen-Ford WHMA Impacts						
	Estimated Number	230-kV Temporary Acreage Impacts	230-kV Permanent Acreage Impacts	Estimated Number	500-kV Temporary Acreage Impacts	500-kV Permanent Acreage Impacts
Tower Footings ^a	33	68	2	28	58	2
Transmission Line Stringing and Pulling/Tensioning Sites ^b	4	4	0	4	4	0
Spur Roads ^c	33	2	2	28	2	2
Total		74	4		64	4

^a The estimated average distance between towers for the 230-kV is 1,200 feet and 500-kV is 1,400 feet. Temporary disturbance acreage was estimated to equal 300 feet x 300 feet and permanent disturbance acreage was estimated to equal 50 feet x 50 feet.

^b Stringing and pulling/tensioning sites are estimated to occur every 10,000 linear feet and require 300 feet of width x 150 feet of length of disturbance.

^c Spur roads are estimated to require 100 linear feet of length x 24 linear feet of width at each tower location.

All other potential impacts to special-status species and available mitigation measures would be similar to those described for the Proposed Project in Special-Status Species Impacts 1 through 8.

3.1.3.6.4 Waters of the U.S.

Potential impacts and permit requirements of Alternative C associated with waters of the U.S. would be similar to that discussed for the Proposed Project under waters of the U.S. Impact 1.

3.1.3.6.5 No Project Alternative

Under the No Project Alternative, impacts to existing vegetation communities, wildlife, “waters of the U.S.”, and special-status species would not occur. However, if the No Project Alternative was adopted, other construction activities that might create significant environmental impacts would be required to provide adequate reliability and improve the electric system within the IID service area.

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